RESOLUTION NO. 2018-60
RESOLUTION NO. PFA-03
ORDINANCE NO. 2018–02

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, November 14, 2018
1:00 p.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 three 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 Meetings of September 12 and September 19

3b Review Board of Directors Monthly Time Sheets for October, 2018

3c Ratify Claim Summary #560 Secretarial Fund in the Amount of $1,746,510.38 for October 2018.
(Jeffrey Meyer, Interim General Manager) **RES 2018-_____**

3d Adopting Resolution recognizing Tim Quinn for serving as the Executive Director of the Association of California Water Agencies.
(Jeffrey Meyer, Interim General Manager) **RES 2018-_____**

4. NEW BUSINESS

4a Discussion / Direction regarding Funding Options for District's PERS Unfunded Pension Liability (Jeffrey Meyer, Interim General Manager)

4b Discussion / Action to Adopt the Local Hazard Mitigation Plan Update
(Peter Martin, Manager of Water Resources) **RES 2018-_____**

4c Discussion / Direction for the 2018 Draft Supplemental West Point Water System Master Plan (Peter Martin, Manager of Water Resources)

4d Discussion / Action on Division 5 / Valley Springs Declaration of Surplus Property APN 074-008-001
(Robert Creamer, Engineering Analyst) **RES 2018-_____**

5. WORKSHOP

5a Update on Local Forest Management Initiatives
(Peter Martin, Manager of Water Resources)

6. OLD BUSINESS

6a Discussion / Direction on Customer Assistance Program Draft Policy
(Joel Metzger, Manager of External Affairs, Conservation, and Grants)

7.* GENERAL MANAGER REPORT

8.* BOARD REPORTS / INFORMATION / FUTURE AGENDA ITEMS

9. NEXT BOARD MEETINGS

- Thursday November 15, 2018, 1:00 p.m., Special Board Meeting
- Tuesday November 20, 2018, 1:00 p.m., Special Board Meeting
- Wednesday, December 12, 2018, 1:00 p.m., Regular Board Meeting

10. CLOSED SESSION

10a Conference with legal counsel – anticipated litigation. Significant exposure to litigation pursuant to subdivision (d)(2) of Government Code § 54956.9. One potential case.

10b Conference with Real Property Negotiators
Government Code § 54956.8
Property: APN 046-019-051, 073-042-127, and 073-042-129, Valley Springs
District negotiators: Jeffrey Meyer and Robert Creamer
Under negotiations: price and other terms

10c Conference with Legal Counsel – Potential Litigation Government Code § 54956.9

11. REPORTABLE ACTION FROM CLOSED SESSION

12. 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	Membership**
*Engineering Committee	Davidson / Thomas (alt. Underhill)
*Finance Committee	Underhill / Ratterman (alt. Thomas)
*Legal Affairs Committee	Ratterman / Davidson (alt. Underhill)
Executive Committee *(ad hoc)*	Ratterman / Thomas
Cost of Service Study Committee *(ad hoc)*	Strange / Ratterman

Joint Power Authorities

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

Other Regional Organizations of Note

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

* 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. 2018-48
RESOLUTION NO. PFA-03
ORDINANCE NO. 018–02

MINUTES

CALAVERAS COUNTY WATER DISTRICT
REGULAR BOARD MEETING

September 12, 2018

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

Staff Present: Dave Eggerton, General Manager
Rebecca Hitchcock, Clerk to the Board
Jeffrey Meyer, Director of Administrative Services
Charles Palmer, District Engineer
Bob Godwin, Sr. Civil Engineer
Jesse Hampton, Interim Director of Operations
Peter Martin, Manager of Water Resources
Robert Creamer, Engineering Analyst

Others Present: Elaine St. John
Vickey Mills

ORDER OF BUSINESS

CALL TO ORDER / PLEDGE OF ALLEGIANCE

1. ROLL CALL

President Ratterman called the Regular Board Meeting to order at 1:02 p.m. and led the pledge of allegiance. All Board Members were present.

2. PUBLIC COMMENT

There was no public comment.

3. CONSENT AGENDA

MOTION: Directors Davidson / Thomas – Approved Consent Agenda Items:

3a Approving Minutes for the Board Meeting of August 8, 2018; 3b, Review of Board of Directors Monthly Time Sheets for August 2018; 3e, Approving RES 2018-48 to Amend Appendix A of District Policy No. 5070 - Conflict of Interest Code

3a Approval of Minutes for the Board Meeting of August 8, 2018

3b Review Board of Directors Monthly Time Sheets for August 2018

Director Davidson pulled Item 3c from the Consent Agenda

3c Approve the Cancellation of the Regular Board Meeting of September 26, 2018 (Dave Eggerton, General Manager)

Director Underhill pulled Item 3d from the Consent Agenda

3d Ratify Claim Summary #558 Secretarial Fund in the Amount of $3,260,073.43 for August 2018. (Jeffrey Meyer, Director of Administrative Services) **RES 2018-49**

3e Approval to Amend Appendix A of District Policy No. 5070 - Conflict of Interest Code (Rebecca Hitchcock, Clerk to the Board) **RES 2018-48**

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

OFF CONSENT AGENDA

Director Davidson pulled Item 3c from the Consent Agenda

3c Approve the Cancellation of the Regular Board Meeting of September 26, 2018 (Dave Eggerton, General Manager)

MOTION: Directors Davidson / Thomas Approved the Cancellation of the Regular Board Meeting of September 26, 2018

DISCUSSION: Director Davidson stated that he would not be at the meeting the second week of October and wanted to make sure there would be a quorum for that meeting.

PUBLIC COMMENT: There was no public comment.

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

Director Underhill pulled Item 3d from the Consent Agenda

3d Ratify Claim Summary #558 Secretarial Fund in the Amount of $3,260,073.43 for August 2018. (Jeffrey Meyer, Director of Administrative Services) **RES 2018-49**

DISCUSSION: Director Underhill had concerns over the amount of the Claim Summary of $3,260,073.43. Mr. Meyer explained that every year in August, debt service payments are issued. Debt services are for Capital R&R loans and assessment district debt, which is not CCWD debt but gets channeled through CCWD from the property owners.

PUBLIC COMMENT: There was no public comment.

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

4. NEW BUSINESS

4a Discussion regarding Meter Sizing and Capacity Fees for Residential Fire Sprinkler Systems (Charles Palmer, District Engineer)

DISCUSSION: Mr. Palmer gave a presentation stating the vast majority of the District's customers have a 5/8" meter. This is how the fee structure and capacity fees are calculated. In addition, all of the master plans have been created using a 5/8" meter as the standard. Mr. Palmer discussed the domino effect changing the meter size would have on the District that would require re-evaluating not only the system demands and infrastructure needs, but also the corresponding rate structure. There was significant discussion between the Board and staff. The Board gave direction to staff to bring this item back in October for more discussion.

PUBLIC COMMENT:

Mr. Lemke of Miramont Homes explained that the current residential meter is not sufficient for any new home build without the builder getting creative. He explained that their new homes are very water efficient but the requirements for fire sprinklers are not covered with the 3/8" or 3/4" meter. He mentioned that this is a community problem and appreciates the consideration of the Board.

Ms. Sabota, General Counsel for DeNova Homes, mentioned that the cost per home is $18,000 to hook up to the CCWD system due to the meter size. She said that most other districts have already solved this issue. She would like to offer any help necessary to educate the District on how other jurisdictions have responded to this issue.

Another speaker gave compliments to the staff at CCWD for trying to meet with them and brainstorm on ways to solve this issue. He gave the board examples of how other jurisdictions have charged for 1" meters. There was discussion between the Board and staff on the handouts.

4b Discussion / Action Adopting the District's Financial Management Policy – Policy No. 5.12 – Debt Management Policy
(Jeffrey Meyer, Director of Administrative Services) **RES 2018-50**

MOTION: Directors Davidson/Underhill Adopted the District's Financial Management Policy – Policy No. 5.12 – Debt Management Policy

DISCUSSION: Mr. Meyer stated that a recent California bill changed the reporting requirements of public agencies on issuance of debt, record keeping and compliance. The District's current Debt Policy does not meet the requirements and Bond Counsel, Cameron Weist, has assisted in updating the policy that is being presented today. A separate Continuing Disclosure Policy will be brought the Board in the near future.

PUBLIC COMMENT: There was no public comment.

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

4c Discussion/Action regarding Refinancing of Outstanding Limited Obligation Improvement Bonds and Appointing Financial Consultants
(Jeffrey Meyer, Director of Administrative Services)

RES 2018-51

MOTION: Directors Davidson / Underhill Approved a Preliminary Intention to Refinancing Outstanding Limited Obligation Improvement Bonds and Appointing Financial Consultants

DISCUSSION: Mr. Meyer presented a proposed refinance of the Dalee Cassidy and Fly In Acres Assessment Districts. The Dalee Cassidy Bond was originally $990,000 at an average interest of 5.80% and Fly In Acres was originally $2,000,000 at an average interest rate of 5.50%. The debt could be consolidated at an interest rate of 3.5% which would be a savings of about $18,000 per year. Mr. Meyer mentioned that the Board does have authority to approve the refinance if three conditions are met: there must be savings in each year for each property owner; the assessment needs cannot be increased on any property; and the final maturity of the bonds cannot be extended. Financial consultants for this process would be Weist Law Firm and NHA Advisors. There was discussion between the Board and staff regarding the various details.

PUBLIC COMMENT: There was no public comment.

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

RECESS was called at 2:14 p.m. **SESSION RESUMED** at 2:20 p.m.

4d Update on the Calaveras Public Power Agency (CPPA)
(Peter Martin, Manager of Water Resources)

DISCUSSION: Mr. Martin updated the Board on CPPA by highlighting a few items of interest. The rate stabilization fund has fully recovered at the end of FY 17/18. As a result, the power costs have been reduced to $0.085 per kWh for FY 18/19. There was discussion on this between the Board and staff.

PUBLIC COMMENT: There was no public comment.

5. OLD BUSINESS

5a Update on Actions of the Eastside Groundwater Sustainability Agency and JPA
(Peter Martin, Manager of Water Resources)

DISCUSSION: Mr. Martin gave a brief update on the Eastside Groundwater Sustainability Agency and JPA. There was a recent open house where information was shared. He reviewed the new

structure of the agency and new tools available. Director Underhill and Director Thomas added their comments on how the open house went.

PUBLIC COMMENT: There was no public comment.

6. GENERAL MANAGER REPORT

Mr. Eggerton reported on the following activities: 1) SB 623 (Monning) water tax bill was defeated, which was a big win for the water industry; 2) AB 2629 (Arumbula) groundwater recharge was also defeated but water agencies will have a pathway through the state water board to create an expedited process to allow for groundwater recharge in high flow events; 3) SB 998 Water Shut Off bill passed but has not yet been signed by the Governor. As the bill is implemented CCWD will have to update the Board on what changes will need to me made; and, 4) Discussed the Rate Assistance Program public meeting on September 27, 2018 at 6:00 p.m.

7.* BOARD REPORTS / INFORMATION / FUTURE AGENDA ITEMS

Director Underhill mentioned fire danger and issues with insurance for home owners.

Director Thomas discussed attending the Ebbetts Pass Property Owners Council (EPPOC) meeting and thought it was impressive. In addition, the meeting with Utica Water & Power Authority (UWPA) and the Board of Supervisors (BOS) was a good meeting and tour.

Director Strange had questions about the rate assistance outreach to the public but that was previously answered earlier in the meeting. In addition, the notifications regarding the Sheep Ranch water outage were very good. Lastly, the Calaveras Habitat Conservation Plan (HCP) is almost complete after a long 12-year process. It is one of the first aquatic HCP's in the state and he is looking forward to the workshop.

Director Davidson had nothing to report.

Director Ratterman reported that the Finance Committee is Sept 18 at 2:00 p.m., the Legal Affairs Committee is Sept 19 at 2:30 p.m., the Mountain Counties meeting is at CCWD on Friday the Oct. 28 at 10:30 a.m., and the East Bay MUD barbeque is on Friday, October 5.

8. NEXT BOARD MEETINGS

- Wednesday, Sept 26, 2018, 1:00 p.m., Regular Board Meeting (cancellation proposed)
- Wednesday, October 10, 2018, 1:00 p.m., Regular Board Meeting

The Open Session ended at 2:58 p.m.

The meeting adjourned into Closed Session at approximately 3:00 p.m. Those present were Board Members: Russ Thomas, Bertha Underhill, Jeff Davidson, Scott Ratterman and Terry Strange, staff members Dave Eggerton, General Manager, Robert Creamer, Engineering Analyst (for item 9a), and Matt Weber, General Counsel.

9. CLOSED SESSION

9a Conference with Real Property Negotiators
Government Code §54956.8
Property: APN's 072-046-004, 074-008-001, and 046-016-070, Valley Springs.
District Negotiator: Dave Eggerton and Robert Creamer
Under Negotiation: price and other terms

9b Conference with Legal Counsel – Potential Litigation
Government Code §54956.9

10. REPORTABLE ACTION FROM CLOSED SESSION

The Board reconvened into Open Session at approximately 4:00 p.m. There was no reportable action.

11. ADJOURNMENT

With no further business, the meeting adjourned at approximately 4:01 p.m.

By: ATTEST:

_____ _____

Jeffrey Meyer
Interim General Manager

Rebecca Hitchcock
Clerk to the Board

RESOLUTION NO. 2018-52
RESOLUTION NO. PFA-03
ORDINANCE NO. 018–02

MINUTES

CALAVERAS COUNTY WATER DISTRICT
SPECIAL BOARD MEETING

SEPTEMBER 19, 2018

Directors Present: Scott Ratterman, President
Bertha Underhill, Director
Jeff Davidson, Director

Staff Present: Dave Eggerton, General Manager by teleconference
Rebecca Hitchcock, Clerk to the Board
Jeffrey Meyer, Director of Administrative Services

ORDER OF BUSINESS

CALL TO ORDER / PLEDGE OF ALLEGIANCE

1. ROLL CALL

President Ratterman called the Special Board Meeting to order at 2:15 p.m. and led the pledge of allegiance. Director Strange and Director Thomas were absent.

2. PUBLIC COMMENT

There was no public comment.

3. NEW BUSINESS

3a Discussion / Action Regarding Amending the FY 2018-19 CIP Budget for the Jenny Lind Water Treatment Plant Pretreatment Project (CIP #11092)
(Joel Metzger, Manager of External Affairs, Conservation, and Grants)
RES 2018-52

MOTION: Directors Davidson / Underhill – Approved Amending the FY 2018-19 CIP Budget for the Jenny Lind Water Treatment Plant Pretreatment Project (CIP #11092)

DISCUSSION: Mr. Metzger explained that on September 12, 2018, CalOES informed the District additional disaster funds were available and invited the District to submit a request for additional grant funding from FEMA. With costs exceeding the original budget for the project, the District welcomed the opportunity to submit for additional funding. On September 12, 2018, the District submitted a letter to CalOES requesting a project funding increase of $831,000, with a revised project budget totaling $4,549,000. On September 18, 2018, CalOES informed the District an updated local match commitment letter would be required as part of the request for the project budget adjustment. Per CCWD policy, the CCWD Board of Directors must approve CIP budget adjustments and local funding match commitment letters.

PUBLIC COMMENT: There was no public comment.

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

3b Discussion / Action Regarding Authorizing the General Manger to Sign a Local Match Commitment Letter for the Jenny Lind Water Treatment Plant Pretreatment Project (CIP #11092)
(Joel Metzger, Manager of External Affairs, Conservation, and Grants)
RES 2018-53

DISCUSSION: There was no discussion.

PUBLIC COMMENT: There was no public comment.

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

4. ADJOURNMENT

With no further business, the meeting adjourned at approximately 2:21 p.m.

By: ATTEST:

_____ _____
Jeffrey Meyer Rebecca Hitchcock
Interim General Manager Clerk to the Board

Agenda Item

DATE: November 14, 2018

TO: Jeffrey Meyer, Interim General Manager

FROM: Rebecca Hitchcock, Clerk to the Board

SUBJECT: Review Board of Directors Time Sheets for October, 2018

RECOMMENDED ACTION:

For information only.

SUMMARY:

Pursuant to direction from the Board of Directors, copies of the Board's monthly time sheets from which the Board is compensated from, are included in the monthly agenda package for information. Attached are copies of the Board's time sheets for the month of October, 2018.

Board Members can be reimbursed for mileage cost to travel to meetings/conferences and are paid at the current IRS rate.

FINANCIAL CONSIDERATIONS:

Monthly compensation and mileage reimbursement costs are included in the FY 2018-19 budget.

Attachments: *Board of Directors Time Sheets for October, 2018*

CALAVERAS COUNTY WATER DISTRICT
DIRECTOR REIMBURSEMENT FORM

For Admin Use		
	Payroll	✓
	Expense	

Month/Yr October 2018

Name S. Rutherman

Activity Date	Meeting or Other Expense Description	Designated Rep. Yes	Designated Rep. No	Association List Yes	Association List No	Prior Approval Yes	Prior Approval No	Cost Meeting	Cost Expense	Total Miles
9-26	Executive Comm. Mtg - CCWD							$120.-		7
10-5	EBMUD Meeting - BBQ - Pardee							120.-		30
10-10	CCWD Reg Mtg							120.-		7
10-11	CAMRA Tour - Practice run WPWTP									5
10-15	BOS/CCWD/CPUD Coordination Mtg							120.-		7
10-16	Finance Comm Mtg - CCWD							120.-		7
10-17	CAMRA Tour - WP/RR Flat							120.-		7
10-19	Mt. Counties Mtg - Conf. Call									
10-24	CCWD Reg Mtg -							120.- ~~P~~ 120 Okay SV		7
	For Totals line, multiply miles by the IRS rate: 1/1/18 $0.545									77
	Pursuant to Board Policy 4030, receipts required; report /materials required.							Totals (use IRS mileage rate) $840.-	$	$ 41.97

The undersigned, under penalty of perjury states: This claim and the items set forth herein are true and correct; that expenses incurred, meetings attended and business conducted are necessary to District affairs; that this claim is proper and within the scope of California Water Code Section 20200 et seq, and District Ordinance 2015-02; that the service was actually rendered; and that the amount(s) herein are justly true.

Signature of Claimant: ~~$220.~~ P

Administrative Review: _____ Date: 25 Oct 18

Orig to Finance Dept.

CALAVERAS COUNTY WATER DISTRICT
DIRECTOR REIMBURSEMENT FORM

For Admin Use: Payroll ☑ Expense ☐

Month/Yr October 2018

Name Terry Strange

Activity Date	Meeting or Other Expense Description	Designated Rep. Yes	Designated Rep. No	Association List Yes	Association List No	Prior Approval Yes	Prior Approval No	Cost Meeting	Cost Expense	Total Miles
10/9	CPUD Board Meeting							120		53
10/10	CCWD " "							~~12~~		~~54~~
								120		54
10/24	CCWD " "							120		54
								360		161
	For Totals line, multiply miles by the IRS rate: 1/1/15 $0.~~575~~									
	Pursuant to Board Policy 4030, receipts required; report /materials required.							Totals (use IRS mileage rate)		
								$ 360	$	$ 87.75

The undersigned, under penalty of perjury states: This claim and the items set forth herein are true and correct; that expenses incurred, meetings attended and business conducted are necessary to District affairs; that this claim is proper and within the scope of California Water Code Section 20200 et seq, and District Ordinance 2010-01; that the service was actually rendered; and that the amount(s) herein are justly true.

Signature of Claimant: Terry Strange

Administrative Review: [signature]

Date: 25 Oct 18

Orig to Finance Dept.

CALAVERAS COUNTY WATER DISTRICT
DIRECTOR REIMBURSEMENT FORM

For Admin Use — Payroll ☑ Expense ☐

Month/Yr OCTOBER, 2018

Name BERTHA E UNDERHILL

Activity Date	Meeting or Other Expense Description	Designated Rep. Yes	Designated Rep. No	Association List Yes	Association List No	Prior Approval Yes	Prior Approval No	Cost Meeting	Cost Expense	Total Miles
9/25/18	2x2 UWPA/CCWD							120		57
9/28/18	CUSTOMER ASSISTANCE WORKSHOP							120		84
10/3/18	EPPCC – ARNOLD							—		—
10/5/18	EBMUD – LAKE PARDEE							120		107
10/10/18	BOARD MEETING							120		84
10/16/18	FINANCE COMMITTEE							120		84
10/17/18	CAMPA FIELD TRIP							120		84
10/24/18	BOARD MEETING							~~120~~ 120 draw (R)		84
	For Totals line, multiply miles by the IRS rate: 1/1/18 $0.545									584
	Pursuant to Board Policy 4030, receipts required; report /materials required.							Totals *(use IRS mileage rate)*	$ ~~720~~	$ 318.28

The undersigned, under penalty of perjury states: This claim and the items set forth herein are true and correct; that expenses incurred, meetings attended and business conducted are necessary to District affairs; that this claim is proper and within the scope of California Water Code Section 20200 et seq, and District Ordinance 2015-02; that the service was actually rendered; and that the amount(s) herein are justly true.

Signature of Claimant: $840 (R)

Bertha E Underhill

Administrative Review: _____

Date: 25 Oct 18

Orig to Finance Dept.

CALAVERAS COUNTY WATER DISTRICT
DIRECTOR REIMBURSEMENT FORM

For Admin Use	Payroll Expense	☑

Month/Yr October, 2018

Name Russ Thomas

Activity Date	Meeting or Other Expense Description	Designated Rep.		Association List		Prior Approval		Cost		Total Miles
		Yes	No	Yes	No	Yes	No	Meeting	Expense	
25-Sep	UWPA 2x2 Meeting							120		40
26-Sep	CCWD Executive Committee							120		44
2-Oct	CCWD Engineering Committee							120		44
4-Oct	ACWA Region 8/Tour of Waymouth WT Plant in La Verne							120		760
10-Oct	ESJGA in Stockton							120		126
10-Oct	CCWD Board Meeting							0		0
15-Oct	2x2 Meeting with County Reps							120		44
	For Totals line, multiply miles by the IRS rate:	1/1/18	$0.545							**1058**
Pursuant to Board Policy 4030, receipts required; report/materials required.				*Totals* (use IRS mileage rate)				$ 720	$0.00	$576.61

The undersigned, under penalty of perjury states: This claim and the items set forth herein are true and correct; that expenses incurred, meetings attended and business conducted are necessary to District affairs; that this claim is proper and within the scope of California Water Code Section 20200 et seq, and District Ordinance 2015-02; that the service was actually rendered; and the amount(s) herein are justified and true.

Signature of Claimant: Russ Thomas

Administrative Review: _____ Date: 25 Oct 18

Original to Finance Dept.

CALAVERAS COUNTY WATER DISTRICT
DIRECTOR REIMBURSEMENT FORM

For Admin Use	Payroll	⊘
	Expense	☐

Month/Yr: Oct-18

Name: Jeff Davison

Activity Date	Meeting or Other Expense Description	Designated Rep. Yes	Designated Rep. No	Association List Yes	Association List No	Prior Approval Yes	Prior Approval No	Cost Meeting	Cost Expense	Total Miles
2-Oct	CCWD Engineering Committee							120		28
Total	*For Totals line, multiply miles by the IRS rate:*	1/1/18	$0.545					120		28
Pursuant to Board Policy 4030, receipts required; report /materials required.				Totals *(use IRS mileage rate)*				$120.00		$15.26

The undersigned, under penalty of perjury states: This claim and the items set forth herein are true and correct; that expenses incurred, meetings attended and business conducted are necessary to District affairs; that this claim is proper and within the scope of California Water Code Section 20200 et seq, and District Ordinance 2015-02; that the service was actually rendered; and that the amount(s) herein are justly true.

Signature of Claimant:

Administrative Review:

Date: 25 Oct 18

Orig to Finance Dept.

Calaveras County Water District
Claim Summary # 560

Certificate of Administrative Officer

The services listed on the within schedules were actually rendered by the close of the current month. The articles listed on the schedules within and the supporting invoices were actually delivered, or payment therefore is properly due prior to delivery. To the best of my knowledge all claims made are in accordance with adopted Board policies and/or other Board actions and are in compliance with all applicable laws. The claimants named on the within schedules are each entitled to the amount set opposite their respective names.

Jeffrey Meyer
Interim General Manager

1.	October 2018 payroll checks issued on 10/15/2018	162,656.08
2.	October 2018 payroll checks issued on 10/31/2018	192,445.43
3.	October 2018 compensation to Directors	2,415.17
4.	Vendor payments for October 1 through 31, 2018	1,106,834.05
5.	Other payroll related costs	282,159.65
	Claim Summary Total	**$1,746,510.38**

Calaveras County Water District
AP Disbursement Summary
October 1-31, 2018

CCWD Operating Expenditures		$ 839,754.11
Expenditures to be reimbursed from other agencies	(A)	-
Expenditures to be reimbursed from grant agreements	(B)	45,160.29
Fiduciary Payments (funds collected prior to expenditure)	(C)	16,777.69
Partial Reimbursement	(D)	114,890.68
Capital R&R Projects	(E)	44,111.52
Capital Outlay	(F)	46,139.76
Total Payments		$ 1,106,834.05

CCWD
AP DISBURSEMENTS
OCTOBER 1-31, 2018

Check No.	Vendor/Employee	Transaction Description	Date	Amount	
130868	A T & T	Internet Service 10/18 - LC	10/12/2018	40.00	
130926	A T & T	Leased Lines 10/18	10/18/2018	66.07	
130966	A T & T	Internet Service 10/18 - LC Complex	10/26/2018	50.00	
130967	A T & T	Phone 10/18 - SA Shop	10/26/2018	119.43	
130869	A T & T CALNET2	District Radio Tower 09/18 - Camp Connell	10/12/2018	375.20	
130968	A T & T CALNET3	Phone 10/18 - Dorrington P/S	10/26/2018	20.78	
130969	A T & T CALNET3	Phone 10/18 - District Wide	10/26/2018	1,264.17	
130971	A T & T CALNET3	Phone 10/18 - Long Distance	10/26/2018	432.60	
130972	A T & T CALNET3	Phone 10/18 - Hunter's	10/26/2018	20.80	
130973	A T & T CALNET3	Phone 10/18 - Azalea L/S	10/26/2018	19.15	
130974	A T & T CALNET3	Phone 10/18 - CCWHSE	10/26/2018	5.61	
130975	A T & T CALNET3	Phone 10/18 - OP HQ Back Up	10/26/2018	190.62	
130976	A T & T CALNET3	T-Line 10/18	10/26/2018	164.68	
130977	A T & T CALNET3	Phone/Fax 10/18 - JLTC	10/26/2018	126.47	
130821	A T & T MOBILITY	Cell Phone 09/18 - Brown	10/05/2018	83.64	
130870	A TEEM ELECTRICAL ENG INC	Consulting Services - JLWTP Pre-Treatment Facility	10/12/2018	1,500.00	(B)
130927	A TEEM ELECTRICAL ENG INC	PLC Programming - Wallace WWTP SCADA	10/18/2018	1,890.00	
130928	ACWA	2019 Membership Dues	10/18/2018	23,535.00	
130978	ACWA	Recruitment - General Manager	10/26/2018	825.00	
130822	ACWA/JPIA	Auto/General Liability Insurance Program 10/18-10/19	10/05/2018	117,061.00	
130871	ACWA/JPIA	Dental Insurance, Employees 11/18	10/12/2018	6,317.24	(D)
130871	ACWA/JPIA	Vision Insurance, Employees 11/18	10/12/2018	1,280.64	
130871	ACWA/JPIA	EAP 11/18	10/12/2018	143.35	
130871	ACWA/JPIA	Dental Insurance, Retirees 11/18	10/12/2018	2,638.56	
130871	ACWA/JPIA	Vision Insurance, Retirees 11/18	10/12/2018	760.96	
130929	ACWA/JPIA	Workers Compensation Insurance 07/18-09/18	10/18/2018	23,461.84	
130823	ADP INC	Payroll Service 09/18	10/05/2018	532.61	
130930	ADP INC	Payroll Service 10/18	10/18/2018	717.85	
130824	AFLAC	Aflac 09/18	10/05/2018	2,018.70	(C)
130981	ALCAL GLASS AND SUPPLY	Pipe Cutters/Couplings - EP Barn	10/26/2018	27.00	
130873	ALHAMBRA DRINKING WATER	Water Cooler Service 09/18 - LCWWTP	10/12/2018	43.17	
130874	ALHAMBRA DRINKING WATER	Water Cooler Service 09/18 - JLWTP	10/12/2018	46.52	
130875	ALLMAX SOFTWARE INC	Annual Software Maintenance (13 Seats)	10/12/2018	2,760.00	
130872	AL'S TIRE SERVICE	Tires Mounted/Balanced (2) - Vehicle #127	10/12/2018	81.24	
130876	AMERIPRIDE SERVICES,INC	Uniform Service 09/18	10/12/2018	2,447.67	
EFT	ANTHEM-BLUE CROSS	Health Insurance, Employees 10/18	10/08/2018	103,318.83	(D)
EFT	ANTHEM-BLUE CROSS	Health Insurance, Retirees 10/18	10/08/2018	40,333.16	
130982	AQUA BEN CORPORATION	Hydrofloc - FMWWTP	10/26/2018	8,428.37	
130877	ARNOLD TIRE AND AUTO CARE	Tires Mounted/Balanced (4) - Vehicle #720	10/12/2018	92.00	
130983	ARNOLD TIRE AND AUTO CARE	Tires Mounted/Balanced (4) - Vehicle #718	10/26/2018	683.68	
130983	ARNOLD TIRE AND AUTO CARE	Tires Mounted/Balanced (4) - Vehicle #719	10/26/2018	683.68	
130983	ARNOLD TIRE AND AUTO CARE	Flat Repair - Backhoe 04	10/26/2018	25.00	

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130879	BHI MANAGEMENT CONSULTING	Recruitment Service - Director of Operations	10/12/2018	1,080.00	
130880	BIG VALLEY FORD LINCOLN MERCURY	Bumper Assembly/Light/Panel - Vehicle #127	10/12/2018	1,472.15	
130880	BIG VALLEY FORD LINCOLN MERCURY	Indicator/Hose Assembly/Gasket/Thermostat/Radiator - Vehicle #523	10/12/2018	457.30	
130880	BIG VALLEY FORD LINCOLN MERCURY	Filters/Lock Cylinder/Key/Lens/Fasteners/Fuel System Kit - Vehicle #621	10/12/2018	879.18	
130931	BNN, LLC	Rent 10/18 - SA Shop	10/18/2018	3,000.00	
130931	BNN, LLC	Utility Reimbursement 10/18 - SA Shop	10/18/2018	244.56	
130826	BURKE, TIFFANY	Post Office Travel Reimbursement 09/18	10/05/2018	23.98	
130934	CAL.NET-MOTHERLODE	Internet Service Sept-Dec	10/18/2018	173.76	
130935	CALAVERAS AUTO SUPPLY	Filter/Sponge - Vehicle #125	10/18/2018	15.08	
130935	CALAVERAS AUTO SUPPLY	Batteries (2) - Vehicle #127	10/18/2018	239.23	
130935	CALAVERAS AUTO SUPPLY	Light/Car Wash/Polish/Filters - Vehicle #131	10/18/2018	146.88	
130935	CALAVERAS AUTO SUPPLY	Brake Caliper/Fluid - Vehicle #143	10/18/2018	208.66	
130935	CALAVERAS AUTO SUPPLY	Battery - Vehicle #519	10/18/2018	119.62	
130935	CALAVERAS AUTO SUPPLY	Batteries (2) - Vehicle #592	10/18/2018	239.23	
130935	CALAVERAS AUTO SUPPLY	Epoxy/Paint/Tape - Vehicle #621	10/18/2018	28.03	
130935	CALAVERAS AUTO SUPPLY	Fittings/Hose Ends - LCWWTP	10/18/2018	19.82	
130935	CALAVERAS AUTO SUPPLY	Hose Clamps/Fuel Additive - District Wide Generators	10/18/2018	420.59	
130935	CALAVERAS AUTO SUPPLY	Check Valve - Copper L/S #15	10/18/2018	34.32	
130935	CALAVERAS AUTO SUPPLY	Shop Towels - SA Shop	10/18/2018	15.00	
130881	CALAVERAS COUNTY CHAMBER	Annual Membership 2018-2019	10/12/2018	625.00	
130827	CALAVERAS COUNTY TAX COLLECTOR	Solid Waste Fee FY 18-19 - Silver Rapids Road	10/05/2018	563.00	
130882	CALAVERAS FIRST COMPANY INC	Collections System Worker Recruitment Ad	10/12/2018	164.00	
130984	CALAVERAS LUMBER CO INC	Hardware Cloth/Screws/Staples/Bits/Lumber - Big Trees Tank #8	10/26/2018	378.48	
130984	CALAVERAS LUMBER CO INC	Screws/Handle/Bits/Extension Cord/Saw Blade - FMWWTP Pads	10/26/2018	145.65	
130984	CALAVERAS LUMBER CO INC	Saw Blades/Hole Saw/Bits/Shovels/Tape Measure - Vehicle #531	10/26/2018	182.85	
130984	CALAVERAS LUMBER CO INC	Tape Rule/Square/Staple Gun - EP Barn	10/26/2018	48.97	
130883	CALIFORNIA CUSTOM POWER SPORTS, INC.	2018 Polaris Ranger - EP	10/12/2018	28,072.27	(F)
130985	CALIFORNIA TEES	Shirts/Sweatshirts - District Staff Uniforms	10/26/2018	194.10	
130884	CALIFORNIA WASTE RECOVERY SYSTEMS	Refuse Disposal 10/18 - District Wide	10/12/2018	1,261.56	
130828	CALTEL	Phone Lines 09/18	10/05/2018	1,401.57	
130936	CAMPORA	Propane 09/18 - Wallace	10/18/2018	6.44	
130829	CARBON COPY INC	Copies/Copier Maintenance 09/18	10/05/2018	145.10	
EFT	CARD SERVICES	ACWA Fall Conference Registration - Thomas	10/11/2018	699.00	
EFT	CARD SERVICES	ACWA Fall Conference Registration/Travel - Martin	10/11/2018	787.96	
EFT	CARD SERVICES	ACWA Regulatory Summit Registration - Hampton	10/11/2018	270.00	
EFT	CARD SERVICES	CWEA Safety Day Registration - Kinney	10/11/2018	134.00	
EFT	CARD SERVICES	CWEA Safety Day Registration - Crumpacker	10/11/2018	134.00	
EFT	CARD SERVICES	Water Distribution Review Course Lodging - Crank	10/11/2018	203.76	
EFT	CARD SERVICES	Water Distribution Review Course Lodging - Sullivan	10/11/2018	203.76	
EFT	CARD SERVICES	Wastewater Review Course Lodging - Applegate	10/11/2018	359.96	
EFT	CARD SERVICES	Submersible Pump/Technology Training Registration - Samorano	10/11/2018	28.45	
EFT	CARD SERVICES	Water Distribution System Operator Course Package - Griffin	10/11/2018	159.53	

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EFT	CARD SERVICES	Rackspace Hosted E-Mail 09/18	10/11/2018	487.45	
EFT	CARD SERVICES	Internet E-Mail Back Up 09/18 - OP HQ	10/11/2018	29.90	
EFT	CARD SERVICES	Internet Service 09/18 - Hunter's WTP	10/11/2018	76.87	
EFT	CARD SERVICES	Staff Overtime Meal - Sheep Ranch Boil Water Alert Notice	10/11/2018	55.02	
EFT	CARD SERVICES	Bottled Water - Sheep Ranch Boil Water Alert	10/11/2018	285.12	
EFT	CARD SERVICES	Remote Area Lighting - CCWHSE	10/11/2018	954.77	
EFT	CARD SERVICES	Rechargeable Flashlights (3) - CCWHSE	10/11/2018	449.64	
EFT	CARD SERVICES	Compensation & Benefits Survey Supplies	10/11/2018	23.95	
EFT	CARD SERVICES	County Filing Fees - La Contenta Easement Agreement	10/11/2018	121.54	
EFT	CARD SERVICES	Reminder Notices Forms - Customer Service	10/11/2018	246.60	
EFT	CARD SERVICES	HR Pamphlets	10/11/2018	46.87	
130885	CARSON HILL ROCK PRODUCTS	3/4" Class II AB - Big Trees PRV Replacement	10/12/2018	163.02	
130885	CARSON HILL ROCK PRODUCTS	3/4" Class II AB - EP Barn Stock	10/12/2018	164.77	
130986	CARSON HILL ROCK PRODUCTS	3/4" Class II AB - CCWHSE Stock	10/26/2018	2,558.19	
130986	CARSON HILL ROCK PRODUCTS	3/4" Class II AB Hauling - CCWHSE Stock	10/26/2018	2,126.25	
130886	CDK SUPPLY	Flourescent Ballasts - SA Shop	10/12/2018	102.04	
130886	CDK SUPPLY	Bushing Seals/Torpedo Level - Vehicle #722	10/12/2018	353.07	
130987	CDK SUPPLY	Electrical Boxes/Lid/Wire - Vallecito Sewer System	10/26/2018	470.52	
130887	CENTRAL CALIFORNIA GENERATOR	Batteries - Ebbetts Pass Meadowmont Tank	10/12/2018	141.68	
130830	CITY OF ANGELS	Sewer Service 09/18 - Six Mile Village	10/05/2018	4,695.23	
130831	CLARK PEST CONTROL	Pest Control 09/18 - FMWWTP	10/05/2018	87.00	
130888	CLARK PEST CONTROL	Pest Control Aug/Sept - Wallace WWTP	10/12/2018	244.00	
130937	CLARK PEST CONTROL	Pest Control Aug/Sept - JLWTP	10/18/2018	124.00	
130988	CLARK PEST CONTROL	Pest Control 08/18 - OP HQ	10/26/2018	125.00	
130889	COLE-PARMER INSTRUMENT CO	Water Proof Thermometer - CCWWTP	10/12/2018	148.45	
130890	COLUMBIA COMMUNICATIONS	Radios (6)/GPS Antennas/Cab Antennas/Wiring - Stock	10/12/2018	6,329.82	
130890	COLUMBIA COMMUNICATIONS	Vehicle Cloud Service 10/18	10/12/2018	730.00	
130832	COMCAST	Internet Service 10/18 - DF/VCTO WWTP	10/05/2018	80.93	
130833	COMCAST	Internet Service 10/18 - OP HQ	10/05/2018	85.93	
130938	COMCAST	Internet Service 11/18 - JLTC	10/18/2018	88.08	
130989	COMCAST	Internet Service 11/18 - JLWTP	10/26/2018	85.93	
130834	CONDOR EARTH TECHNOLOGIES INC	Compaction Testing - JL Leak Repair	10/05/2018	917.50	
130891	CONDOR EARTH TECHNOLOGIES INC	Sustainable Groundwater Management Act (SGMA) Support	10/12/2018	1,712.40	
130891	CONDOR EARTH TECHNOLOGIES INC	Groundwater Monitoring/Reporting	10/12/2018	3,690.75	
130939	CONDOR EARTH TECHNOLOGIES INC	Consultation Services - WP Dam Project	10/18/2018	651.25	
130990	CONDOR EARTH TECHNOLOGIES INC	Materials Testing/Inspection Services - JLWTP Pre-Treatment Facility Project	10/26/2018	3,172.50	(B)
130835	CONETH SOLUTIONS INC	IT Infrastructure Support Services 10/18	10/05/2018	1,325.00	
130991	COPPER AUTO & MARINE	Filters - Vehicle #124	10/26/2018	9.33	
130991	COPPER AUTO & MARINE	Battery/Diesel Engine Fluid - Vehicle #551	10/26/2018	63.26	
130991	COPPER AUTO & MARINE	Reducer/Hose/Clamps - CC L/S #15	10/26/2018	13.41	
130991	COPPER AUTO & MARINE	Battery/Oil - CC Generators	10/26/2018	178.44	
130991	COPPER AUTO & MARINE	Torque Wrenches - CCWHSE	10/26/2018	480.04	

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130992	COPPEROPOLIS FIRE PROTECTION DISTRICT	Hydrant Maintenance - CC	10/26/2018	1,674.79	
130940	CPPA	Power 09/18	10/18/2018	88,954.23	
130836	CPUD	Water Service 09/18 - OP HQ	10/05/2018	219.55	
130941	CSDA	2019 Membership Dues	10/18/2018	7,252.00	
130942	CUES	Annual Maintenance - Sewer Line Inspection Software	10/18/2018	3,115.25	
130893	CWEA	Collections System Maintenance, Grade 1 Application - Rivera	10/12/2018	358.00	
130943	CWEA	Collections System Maintenance, Grade 1 Certification Renewal - Turner	10/18/2018	87.00	
130993	CWEA	Membership Renewal - Rose	10/26/2018	188.00	
130993	CWEA	Membership Renewal - Scheidt	10/26/2018	188.00	
130993	CWEA	Mechanical Technologist, Grade 4 Certification Renewal - Samorano	10/26/2018	102.00	
130894	DATAPROSE	UB Statement Processing 09/18	10/12/2018	5,254.61	(D)
130944	DEAMICIS, GABRIEL	WW Review Class/Exam Travel Reimbursement	10/18/2018	253.97	
130896	DOWNEY BRAND ATTORNEYS LLP	Legal Services 08/18	10/12/2018	18,419.00	
130837	DUBURG, MICHAEL	Safety Boot Reimbursement	10/05/2018	171.59	
130897	EAGLE AUTOMOTIVE EQUIPMENT	Automotive Lift - SA Shop	10/12/2018	18,067.49	(F)
130898	EBBETTS PASS GAS SERVICE	Fuel 09/18	10/12/2018	2,223.28	
130945	EBBETTS PASS LUMBER	Drill Bits/Fasteners - Vehicle #531	10/18/2018	48.43	
130945	EBBETTS PASS LUMBER	Clog Buster - FMWWTP Belt Press	10/18/2018	34.74	
130945	EBBETTS PASS LUMBER	Rope/Bungee Cords/Skimmer Handle/Wire/Fittings - Hunter's WTP	10/18/2018	48.46	
130945	EBBETTS PASS LUMBER	Primer/Torch/Fittings/Tie-Downs/Bits/Rope - DF/VCTO WWTP	10/18/2018	71.63	
130945	EBBETTS PASS LUMBER	Stihl Shroud/Switch Shaft - EP Barn	10/18/2018	92.06	
130945	EBBETTS PASS LUMBER	Pipe Fittings/Ball Valve/Pipe/Tape - FMWWTP	10/18/2018	150.17	
130994	ECORP CONSULTING, INC	White Pines Gaging Project	10/26/2018	1,150.38	
130994	ECORP CONSULTING, INC	Mokelumne River Water Supply Study	10/26/2018	2,860.00	
130839	FASTENAL	First Aid Kit Supplies - District Wide	10/05/2018	3,486.26	
130995	FASTENAL	Earplugs/Area Lighting/Gloves/Warning Flags - CCWHSE	10/26/2018	1,290.84	
130995	FASTENAL	Tape/Soap/Bits/Primer/Lubricant/Gloves - JL	10/26/2018	549.51	
130995	FASTENAL	Shovels/Saw Blades/Discs/Ear Plugs/Lubricant - EP	10/26/2018	1,050.34	
130899	FERGUSON ENTERPRISES, INC	Sewage Pumps (3) - Southworth WWTP	10/12/2018	4,355.58	
130899	FERGUSON ENTERPRISES, INC	Meters (64) - EP Barn	10/12/2018	6,820.66	
130996	FERGUSON ENTERPRISES, INC	Ball Valves - LCWHSE	10/26/2018	2,554.63	
130996	FERGUSON ENTERPRISES, INC	Cla-Val Rebuild Kit - Wilseyville P/S	10/26/2018	278.08	
130996	FERGUSON ENTERPRISES, INC	Couplings/Saddles/Connectors/Corp Stops/Ball Valves-CC Line Replacement	10/26/2018	2,885.84	
130840	FGL ENVIRONMENTAL	Waste Water Testing 09/18	10/05/2018	1,268.00	
130840	FGL ENVIRONMENTAL	Water Testing 09/18	10/05/2018	2,255.50	
130997	FGL ENVIRONMENTAL	Waste Water Testing 10/18	10/26/2018	3,124.12	
130997	FGL ENVIRONMENTAL	Water Testing 10/18	10/26/2018	5,555.38	
130901	FLEXIM AMERICAS CORP	Flow Meter Transducers (2) - Stock	10/12/2018	3,740.00	
130998	FOOTHILL PORTABLE TOILETS	Portable Toilet Rental 10/18 - Sheep Ranch	10/26/2018	93.50	
130998	FOOTHILL PORTABLE TOILETS	Portable Toilet Rental 10/18 - Wallace	10/26/2018	93.50	
130999	FROGGY'S AUTO WASH & LUBE	Express Wash - Vehicle #139	10/26/2018	11.95	
130947	GARCIA AND ASSOCIATES	Archaeological Monitoring - JLWTP Pre-Treatment Facility Project	10/18/2018	38,353.41	(B)

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130902	GCR TIRES & SERVICE	Rear Axle Rims/Tires (4) - Vehicle #145	10/12/2018	2,157.19	
130903	GOVCONNECTION, INC	Laptops/Covers/Software - Construction Crew (3)	10/12/2018	3,734.27	
131001	GOVCONNECTION, INC	Switch/Bracket/Monitors (4) - OP HQ	10/26/2018	834.16	
130949	GRAINGER	Pallet Jacks (2) - SA Shop	10/18/2018	781.83	
131002	GRAINGER	Screwdriver - Vehicle #551	10/26/2018	9.84	
131002	GRAINGER	Cones/Paint/Stencil - Vehicle #720	10/26/2018	351.83	
131002	GRAINGER	Fish Tape - JLWTP	10/26/2018	46.52	
131002	GRAINGER	pH Probe Electrode - Wallace WWTP/Southworth WWTP	10/26/2018	116.90	
131002	GRAINGER	Relays - Electricians Stock	10/26/2018	224.37	
131002	GRAINGER	Ball Valves/CPVC Fittings - Hunter's WTP	10/26/2018	213.73	
130842	HACH COMPANY	Turbidimeter Bench Services Contract 09/18-09/19 - District Wide	10/05/2018	5,534.00	
130904	HACH COMPANY	Spectrophotometer Inspection/Calibration - JLWTP	10/12/2018	502.25	
131004	HD SUPPLY CONSTRUCTION & INDUSTRIAL	Impact Wrench/Battery/Asphalt Blades - Vehicle #531	10/26/2018	1,247.61	
131004	HD SUPPLY CONSTRUCTION & INDUSTRIAL	Rake/Wattle Rolls/Stakes/Visqueen/Straps - White Pines Dam Toolies Project	10/26/2018	1,781.78	
131005	HERD'S MACHINE & WELD SHOP	Weld Pipe - LCWWTP	10/26/2018	120.00	
131005	HERD'S MACHINE & WELD SHOP	Termination Caps - AWWTP	10/26/2018	35.00	
131005	HERD'S MACHINE & WELD SHOP	Torch Set/Hose/Discs/Shield/Tubing - SA Shop	10/26/2018	972.88	
131006	HESKETH AUTOMOTIVE	Oil/Lube - Vehicle #715	10/26/2018	88.28	
130950	HIBBARD, RICHARD	Class A Permit Fee/License Reimbursement	10/18/2018	506.00	
131007	HOBGOODS CLEANING	Janitorial Service 10/18	10/26/2018	1,985.00	
130905	HUGHESNET	Internet Service 10/18 - FMWWTP	10/12/2018	163.17	
130906	HUNT & SONS, INC	Fuel - WP	10/12/2018	994.03	
131008	HUNT & SONS, INC	Fuel - CC	10/26/2018	1,571.29	
130907	IRON MOUNTAIN	Document Destruction 09/18	10/12/2018	65.02	
130951	JAMESVILLE OFFICE FURNITURE	Office Furniture - OP HQ	10/18/2018	3,403.39	
131010	KASL CONSULTING ENGINEERS	Engineering/Environmental Pemitting/Design Services - EP Reach 1 Project	10/26/2018	21,647.66	(E)
131011	KELLER ASSOCIATES	Design/Engineering Services - Title 22 Reuse Project	10/26/2018	652.50	(E)
131012	KIRSCHMAN, NATHANIEL	Overtime Meal Reimbursement Sept/Oct	10/26/2018	140.75	
130908	KOFF & ASSOCIATES, INC	Comprehensive Salary & Benefits Review & Analysis 10/18	10/12/2018	5,760.00	
131013	LEE & RO, INC	Engineering/Design Services - CC L/S's 8,12,13 & Force Main Bypass	10/26/2018	10,905.68	(E)
131013	LEE & RO, INC	Engineering/Design Services - CC L/S's 15,16 Renovations	10/26/2018	10,905.68	(E)
131014	LES SCHWAB TIRE CENTER	Service Call - La Contenta Backhoe 05	10/26/2018	105.00	
131015	LOWE'S	Air Compressor/Ball Valve/Pipe Fittings - CCWHSE	10/26/2018	562.13	
130910	MARTIN, PETER	Eastern San Joaquin Groundwater Sustainability Plan Meetings Travel Reimb	10/12/2018	155.33	
131017	MATHESON TRI-GAS, INC	Liquid Oxygen - JLWTP	10/26/2018	4,981.60	
131018	MEAD & HUNT INC	La Contenta Dam Inundation Study Services 09/18	10/26/2018	4,437.75	
130911	MODESTO AIRCO GAS & GEAR	Cylinder Rental 10/18	10/12/2018	85.80	
130912	MOTHER LODE ANSWERING SERVICE	Answering Service 10/18	10/12/2018	673.76	
130845	MOUNTAIN OASIS PURIFIED WATER	Water Cooler/Supplies 09/18 - District Wide	10/05/2018	180.25	
130846	MUTUAL OF OMAHA	Life/AD&D/LTD Insurance 10/18	10/05/2018	5,990.89	
131020	NASH CHEVRON	Tires Mounted/Balanced (2) - Vehicle #132	10/26/2018	223.44	
130847	NEOFUNDS BY NEOPOST	Postage 09/18	10/05/2018	1,000.00	

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130913	NEOPOST USA INC	Maintenance Agreement Folder/Sorter 11/18	10/12/2018	407.61	
130848	NEW YORK LIFE	Life Insurance 08/18	10/05/2018	1,108.16	(C)
130914	NEW YORK LIFE	Life Insurance 09/18	10/12/2018	1,108.16	(C)
131021	NORTHSTAR CHEMICAL	Sodium Hypochlorite - AWWTP	10/26/2018	1,053.21	
131021	NORTHSTAR CHEMICAL	Sodium Hypochlorite - CCWTP	10/26/2018	1,286.84	
131021	NORTHSTAR CHEMICAL	Sodium Hypochlorite - Hunter's WTP	10/26/2018	4,978.84	
130953	NTU TECHNOLOGIES INC	Pro Tek - CCWTP	10/18/2018	4,060.00	
130953	NTU TECHNOLOGIES INC	Pro Tek - JLWTP	10/18/2018	2,712.50	
131022	NTU TECHNOLOGIES INC	Pro Tek - Hunter's WTP	10/26/2018	4,060.00	
131022	NTU TECHNOLOGIES INC	Pro Pac Polymer - CCWTP	10/26/2018	6,555.20	
131022	NTU TECHNOLOGIES INC	Pro Pac Polymer - JLWTP	10/26/2018	8,194.10	
131024	OCCU-MED, LTD	Pre-Employment Exams (2)	10/26/2018	553.00	
130954	O'CONNELL & DEMPSEY, LLC	Federal Legislative Advocacy Consulting Services 09/18	10/18/2018	4,000.00	
131023	O'REILLY AUTO PARTS	Filter/Oil - Vehicle #134	10/26/2018	121.24	
131023	O'REILLY AUTO PARTS	Floor Mats - Vehicle #606	10/26/2018	42.89	
131023	O'REILLY AUTO PARTS	Discs/Pads/Sockets/Wrenches/Drill/Ratchet - Vehicle #621 Replacement Tools	10/26/2018	1,446.31	
131023	O'REILLY AUTO PARTS	Battery - Wilseyville Pond Flow Meter	10/26/2018	96.52	
131023	O'REILLY AUTO PARTS	Hydraulic Jack - OP HQ	10/26/2018	48.25	
131023	O'REILLY AUTO PARTS	Hydraulic Oil/Vent Diffuser - Backhoe #04	10/26/2018	63.79	
131023	O'REILLY AUTO PARTS	Shop Towels/Drain - SA Shop	10/26/2018	21.42	
131023	O'REILLY AUTO PARTS	Diesel Diagnostic/Repair Solutions Class - Samorano	10/26/2018	94.95	
131023	O'REILLY AUTO PARTS	Batteries (2) - CC Raw Water P/S	10/26/2018	413.17	
131023	O'REILLY AUTO PARTS	Diesel Fuel Supplement/Biocide - District Wide Generators	10/26/2018	473.48	
130849	P G & E	Power 09/18 - JLTC	10/05/2018	221.98	
130850	P G & E	Power 09/18 - Warmwood L/S	10/05/2018	17.97	
130851	P G & E	Power 09/18 - Woodgate L/S	10/05/2018	21.96	
130852	P G & E	Power 09/18 - OP HQ	10/05/2018	15.63	
130955	P G & E	Power 09/18 - CC Water Tank	10/18/2018	37.03	
130956	P G & E	Power 09/18 - SA Shop	10/18/2018	289.25	
131025	P G & E	Power 10/18 - Hwy 26	10/26/2018	9.90	
131026	P G & E	Power 10/18 - District Wide	10/26/2018	1,873.64	
131027	PACE SUPPLY CORP 23788-00	8" Cla-Val Repair Kits - CCWTP	10/26/2018	920.90	
130853	PALMER, CHARLES	Mileage Reimbursement - JLWTP	10/05/2018	14.72	
131028	PAYMENTUS GROUP INC	Payment Processing 09/18	10/26/2018	5,476.00	
130854	PETERSON BRUSTAD INC	Engineering/Design Services - JLWTP Pre-Treatment Facility Project	10/05/2018	2,134.38	(B)
131029	PETERSON BRUSTAD INC	Engineering Services - CC Water Master Plan Update	10/26/2018	1,749.51	
130915	POTRERO HILLS LANDFILL	Bio-Solids Disposal - DF VCTO	10/12/2018	189.90	
131030	POTRERO HILLS LANDFILL	Bio-Solids Disposal - AWWTP	10/26/2018	319.20	
131030	POTRERO HILLS LANDFILL	Bio-Solids Disposal - FMWWTP	10/26/2018	269.40	
130916	R.E. SMITH CONTRACTORS, INC.	Construction Contract - JLWTP Pre-Treatment Facility Project	10/12/2018	204,030.10	
130855	RIVERA, RICHARD	Winter Weather Gear Reimbursement	10/05/2018	200.00	
130855	RIVERA, RICHARD	Class A DMV Test Fee Reimbursement	10/05/2018	90.00	

CCWD
AP DISBURSEMENTS
OCTOBER 1-31, 2018

Check No.	Vendor/Employee	Transaction Description	Date	Amount	
131032	RYAN HERCO PRODUCTS CORP.	Primer/Glue/Pipe/Fittings/Ball Valves - WPWTP	10/26/2018	380.08	
131033	SAFETY CENTER, INC	Forklift Training (8)	10/26/2018	1,350.00	
130857	SEIU LOCAL 1021	Union Dues 09/18	10/05/2018	2,771.30	(C)
131034	SENDERS MARKET INC	Pliers/Sockets/Paint/Lubricant/Sheet Metal/Bonder/Fasteners - Vehicle #131	10/26/2018	346.56	
131034	SENDERS MARKET INC	Bits/Fittings/Supplies/Broom/Chisels/Pliers/Pry Bar - Vehicle #621 Replacement	10/26/2018	493.70	
131034	SENDERS MARKET INC	Tape Rule/Hose/Tape/Valves/Fittings/Level - Inspectors	10/26/2018	114.24	
131034	SENDERS MARKET INC	Floats/Valves/Primer/Couplers - District Wide Septic Tank Parts	10/26/2018	1,144.84	
131034	SENDERS MARKET INC	Oil/Treatment/Sign/Lumber - LCWHSE	10/26/2018	91.81	
131034	SENDERS MARKET INC	Blade/Markers/Bar/Square T - OP HQ	10/26/2018	43.39	
131034	SENDERS MARKET INC	Fire Extinguisher Bracket/Dog Biscuits/Storage Bins - JLWTP	10/26/2018	63.85	
131034	SENDERS MARKET INC	Saw Blades - SA Shop	10/26/2018	13.50	
131034	SENDERS MARKET INC	Lumber/Paint/Coupler/Bucket/Lid/Fittings/Pipe - Southworth WWTP	10/26/2018	181.43	
131034	SENDERS MARKET INC	Lumber/Paint/Brushes/Bucket/Pipe/Fittings/Coupler - Wallace WWTP	10/26/2018	112.15	
130917	SIERRA JANITORIAL SUPPLY	Paper Towels/Toilet Tissue/Cleaner/Bleach - OP HQ	10/12/2018	350.69	
130958	SIERRA MOTORS	Service Fuel Pump/Fuel Level Gauge - Vehicle #138	10/18/2018	1,711.74	
131035	SIERRA MOTORS	Wheel Hubs Replacement - Vehicle #138	10/26/2018	1,811.03	
131036	SIERRA OFFICE SYSTEMS & PRODUCTS INC	Custom Stamp - Finance	10/26/2018	67.57	
130858	SIGNAL SERVICE	Alarm System Monitoring - JLTC	10/05/2018	255.00	
131037	SLAKEY BROS - JACKSON	Brass Pipe - CCWHSE	10/26/2018	797.94	
130918	STAPLES CREDIT PLAN	Office Supplies	10/12/2018	1,057.22	
EFT	STATE BOARD OF EQUALIZATION	Use Tax July-Sept	10/29/2018	1,079.00	
130861	STRANGE, TERRY	Travel 09/18	10/05/2018	91.56	
130862	SWRCB	Wastewater Treatment Plant Operator, Grade 2 Cert Renewal - DeAmicis	10/05/2018	110.00	
130862	SWRCB	Wastewater Treatment Plant Operator, Grade 4 Cert Renewal - Rose	10/05/2018	110.00	
130919	SWRCB	Water System Enforcement Fee - West Point	10/12/2018	352.00	
131039	SWRCB	Drinking Water Distribution Operator, Grade D5 Cert Renewal - Gerkensmeyer	10/26/2018	105.00	
131039	SWRCB	Drinking Water Distribution Operator, Grade D2 Cert Renewal - DeAmicis	10/26/2018	60.00	
131039	SWRCB	Drinking Water Distribution Operator, Grade D2 Cert Renewal - Tindell	10/26/2018	80.00	
131040	THATCHER COMPANY, INC	Sodium Hypochlorite - Southworth WWTP	10/26/2018	196.25	
131040	THATCHER COMPANY, INC	Sodium Hypochlorite - Wallace WTP	10/26/2018	196.25	
131041	THE CAR DOCTOR	Oil/Lube/Transmission Service - Vehicle #712	10/26/2018	330.55	
131042	THOMPSONS CHRYSLER DODGE JEEP RAM	Oil/Lube/Air Filter - Vehicle #720	10/26/2018	140.08	
130960	TIFCO INDUSTRIES	Copper Lug/Connector Assortment - SA Shop	10/18/2018	297.33	
131043	TIFCO INDUSTRIES	Freon - Vehicle #128	10/26/2018	355.58	
131044	TIRE RACK	Tires (6) - Vehicle #122	10/26/2018	2,275.08	
131044	TIRE RACK	Tires (2) - Vehicle #127	10/26/2018	384.76	
130863	TREATS GENERAL STORE INC	Meeting Supplies	10/05/2018	10.31	
130920	UMRWA	Membership Renewal 10/18-09/19	10/12/2018	36,768.00	
130921	UNION PUBLIC UTILITY DISTRICT	Water Service 09/18 - Vallecito	10/12/2018	159.00	
130864	UNITED PARCEL SERVICE	Shipping 09/18	10/05/2018	25.00	
131045	UNITED PARCEL SERVICE	Shipping 10/18	10/26/2018	87.45	
131046	UNITED RENTALS NORTHWEST, INC	Compressor Rental - LCWHSE	10/26/2018	1,233.26	

CCWD
AP DISBURSEMENTS
OCTOBER 1-31, 2018

Check No.	Vendor/Employee	Transaction Description	Date	Amount	
130865	US BANK CORP TRUST SVCS	Fiscal Agent Administrative Fee - Saddle Creek Assessment District	10/05/2018	2,530.00	(C)
130922	US BANK CORP TRUST SVCS	Fiscal Agent Administrative Fee - Dalee Cassidy Assessment District	10/12/2018	2,150.00	(C)
130866	USA BLUE BOOK	Pipe Wrench/Meter Gaskets/Lid Lifter - Meter Readers	10/05/2018	316.89	
131047	USA BLUE BOOK	pH Buffer - CCWTP	10/26/2018	157.58	
131047	USA BLUE BOOK	Hard Hats/Hand Held Radios - Vehicle #621 Replacement Equipment	10/26/2018	630.76	
131047	USA BLUE BOOK	Arrow Tape - District Wide	10/26/2018	65.05	
131047	USA BLUE BOOK	Pumps (2) - LCWWTP	10/26/2018	2,913.22	
131047	USA BLUE BOOK	Sampler - JLWTP	10/26/2018	205.97	
131047	USA BLUE BOOK	Lamp Assembly/StabCal/Sample Bottles - Hunter's WTP	10/26/2018	1,015.25	
131047	USA BLUE BOOK	Glove Dispenser/Yard Hydrant - FMWWTP	10/26/2018	308.79	
131047	USA BLUE BOOK	Hydrant Wrench/Marking Paint/Whiskers/Flags/Sprayer - EP Barn	10/26/2018	1,099.10	
130964	VERIZON WIRELESS	Cell Phone Service 10/18	10/18/2018	2,560.24	
130867	VOLCANO TELEPHONE COMPANY	Phone 09/18 - WPWTP	10/05/2018	365.69	
130867	VOLCANO TELEPHONE COMPANY	Phone 09/18 - WPWWTP	10/05/2018	157.45	
131048	WEST POINT LUMBER INC	Push Broom - WPWHSE	10/26/2018	20.37	
EFT	WEX BANK	Fuel 09/18	10/10/2018	12,362.50	
131049	WIENHOFF DRUG TESTING	Drug Screening (1)	10/26/2018	70.00	
130924	WILLDAN	Assessement District Services - 3A West Point Acres	10/12/2018	382.04	(C)
130924	WILLDAN	Assessement District Services - 9S4 Arnold	10/12/2018	984.54	(C)
130924	WILLDAN	Assessement District Services - DaLee/Cassidy	10/12/2018	436.53	(C)
130924	WILLDAN	Assessement District Services - Fly-In-Acres	10/12/2018	609.66	(C)
130924	WILLDAN	Assessement District Services - Wallace	10/12/2018	591.42	(C)
130924	WILLDAN	Assessement District Services - Saddle Creek	10/12/2018	2,087.18	(C)
130925	WOOD ENVIRON & INFRASTRUCTURE SOLUTIONS	Local Hazard Mitigation Plan Services 09/18	10/12/2018	229.59	
131050	WOODARD & CURRAN INC	Annual Water Audit Validation Services	10/26/2018	1,794.50	
131051	YOUNG'S COPPER ACE HARDWARE	Glue/Epoxy/Soap/Sharpies/Grease/Fittings/Sand/Loppers/Hand Cart - CCWHSE	10/26/2018	238.46	
	Employee Medical Reimbursements (4)			590.18	
	Retiree Health Reimbursements (3)			780.17	
	Customer Refunds (13)			4,680.41	
		Total October 2018 AP Disbursements		1,106,834.05	

RESOLUTION NO. 2018 – __

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

RATIFYING CLAIM SUMMARY NO. 560

WHEREAS, the Board of Directors of the CALAVERAS COUNTY WATER DISTRICT has reviewed and considered Claim Summary Number 560 at the Regular Meeting held on November 14, 2018; and

WHEREAS, Board Members have resolved questions, issues, or concerns by consultation with District staff during said meeting.

NOW, THEREFORE, BE IT RESOLVED that the CALAVERAS COUNTY WATER DISTRICT Board of Directors hereby ratifies Claim Summary Number 560 in the amount of $1,746,510.38 for the month of October, 2018.

PASSED AND ADOPTED this 14th day of November, 2018 by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

CALAVERAS COUNTY WATER DISTRICT

_____
Scott Ratterman
President, Board of Directors

ATTEST:

_____
Rebecca Hitchcock
Clerk to the Board

Agenda Item

DATE: November 14, 2018

TO: Board of Directors

FROM: Jeffrey Meyer, Interim General Manager

SUBJECT: A Resolution recognizing Tim Quinn for his Service as the Executive Director of the Association of California Water Agencies

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RECOMMENDED ACTION:

Motion:_____/_____ adopting Resolution No. 2018-_____ in Appreciation of Timothy Quinn for his Service as the Executive Director of the Association of California Water Agencies

SUMMARY:

Mr. Tim Quinn recently announced that he is retiring as the Executive Director of the Association of California Water Agencies (ACWA) at the end of December 2018. During his more than eleven (11) years in that position, his leadership on Bay-Delta issues and forest management have brought special attention to the importance of the "headwaters" of the Sierra Nevada region, for which the Calaveras County Water District is grateful. Furthermore, his more than 40 years of exemplary service in the water industry, which culminated with his leadership over an agency representing 450 water agencies statewide, is to be commended.

Staff is recommending the Board of Directors adopt a resolution in recognition of Mr. Quinn's service to the water industry (attached).

FINANCIAL CONSIDERATIONS:

None

Attachment: *Resolution 2018 -__ In Appreciation of Timothy Quinn For His Service as Executive Director of the Association of California Water Agencies*

RESOLUTION NO. 2018 -

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

IN APPRECIATION OF TIMOTHY QUINN FOR HIS SERVICE AS EXECUTIVE DIRECTOR OF THE ASSOCIATION OF CALIFORNIA WATER AGENCIES

WHEREAS, Timothy H. Quinn, who for 40 years has provided exemplary service and distinguished leadership in the California water industry, including the past 11 1/2 years as the Executive Director of the Association of California Water Agencies, is retiring at the end of 2018; and

WHEREAS, During his tenure at ACWA, his leadership on Bay-Delta issues and forest management have brought special attention to the importance of the "headwaters" of the Sierra Nevada region, for which the Calaveras County Water District is grateful; and

WHEREAS, during his career at ACWA, Mr. Quinn led efforts to raise $6.3 million and implement the "California Water: A Crisis We Can't Ignore" educational campaign, which contributed greatly to enhanced public awareness of the urgent need to address California's unique water challenges; and

WHEREAS, he helped negotiate the 2009 legislation that adopted the policy of coequal goals as a foundational policy principle underpinning Bay-Delta collaborative efforts and set first-ever conservation standards. His leadership in this area continued when he spearheaded the development of ACWA's Bay-Delta flows policy, which emphasizes the essential need for comprehensive, integrated ecosystem management plans that link flows to specific functions and biological objectives; and

WHEREAS, his vision of healthy forests as fundamental to making a sustainable water future a reality for future generations of Californians, his leadership in ACWA's advocacy for improved forest management and through his role as founding director of the California Forest Watershed Alliance, has positively influenced federal policy and funding priorities for the benefit of the Sierra Nevada region; and

WHEREAS, he led development of ACWA's Statewide Water Action Plan which helped guide development of the California Water Action Plan, which was adopted by the Brown Administration in 2014 and continues to guide statewide water policy; and

WHEREAS, he led efforts to develop ACWA groundwater policy, which provided the template for the Sustainable Groundwater Management Act, which is widely acknowledged as among the most significant milestones in modern California water history; and

WHEREAS, he successfully oversaw and coordinated ACWA's leadership within the water community during a severe drought period, substantially assisting ACWA members through unprecedented environmental, logistical and regulatory challenges;

and his outstanding work in directing ACWA initiatives on drought preparedness and long-term conservation policy have further established ACWA's place as the leading voice in California water; and

WHEREAS, he played a critical role in raising public awareness of the nexus between drought response and water infrastructure investment, which was a key factor in the passage of Proposition 1, overwhelmingly approved by California voters in 2014; and

WHEREAS, he is a recognized and accomplished water leader in California and the nation through his participation and leadership with multiple nonprofit organizations and coalitions within the water community, including (but not limited to) the Water Education Foundation, National Water Resources Association, California Forest Watershed Alliance, Public Policy Institute of California and Clean Water and Jobs for California; and

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Calaveras County Water District, hereby extends appreciation for his many and significant contributions to the water industry and to the people of California served by that industry; and

BE IT FURTHER RESOLVED that the Board extends its best wishes to Mr. Quinn, and his wife Vivien, for a happy, rewarding, meaningful and well-deserved retirement.

PASSED AND ADOPTED this 14th day of November 2018 by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

CALAVERAS COUNTY WATER DISTRICT

_____
Scott Ratterman, President
Board of Directors

ATTEST:

_____
Rebecca Hitchcock
Clerk of the Board

Agenda Item

DATE: November 14, 2018

TO: Board of Directors

FROM: Jeffrey Meyer, Interim General Manager

SUBJECT: Discussion/Direction Regarding Funding Options for District's PERS Unfunded Pension Liability

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RECOMMENDED ACTION:

Discussion/Direction Regarding Funding Options for District's PERS Unfunded Pension Liability.

SUMMARY:

As a public employer, the District is eligible to participate in the California Public Employees' Retirement System ("PERS"), a defined benefit pension plan. The District has three cost-sharing defined benefit pension plans. They are:

- Miscellaneous Plan (2.7% at 55)
- Miscellaneous Second Tier Plan (2.0% at 60)
- PEPRA Miscellaneous Plan (2.0% at 62)

Public agencies and employees are required to make PERS contributions to fund future retirement benefits. Employer contributions are based on the plan's benefit formula and are the sum of two components, the normal cost and the unfunded accrued liability.

The normal cost is the annual cost of service accrual for active employees and is a percentage of payroll. The unfunded accrued liability (UAL) is the amortized dollar amount needed to fund past service credit earned (or accrued) for active members and members who are currently receiving retirement benefits.

The funded status of the District's Miscellaneous Plan and projected future UAL contributions are included in pages 5, 9, 10 and 11 of the June 30, 2017 CalPERS Actuarial Valuation (attached).

Over the past several years, pension costs have increased significantly due to several factors, including:

1. **Poor Investment Performance:** While CalPERS has targeted a 7.50% annual rate of return, the 10-year average rate of return has been 4.4%, and 20-year

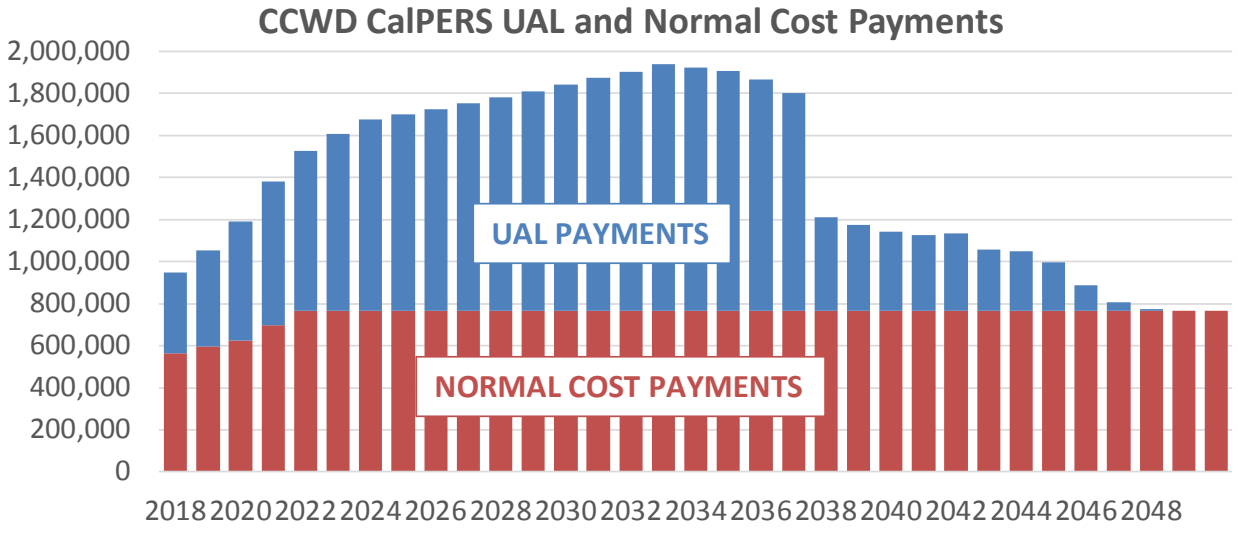
average rate of return has been 6.6%. Each year that CalPERS underperforms, the UAL increases.

2. **Assumption Changes:** When CalPERS changes its actuarial assumptions, the District's UAL is impacted:

   - Reduction of Discount Rate: In 2003, CalPERS reduced the discount rate (assumed annual rate of return) from 8.25% to 7.75%. In 2013, it was reduced from 7.75% to 7.50%. In 2016, CalPERS announced a 3-year phased reduction from 7.50% to 7.00%. The District's recent actuarial report incorporates the first two years of phased reduction, and next year's valuation report will incorporate the last phased reduction from 7.25% to 7.00, driving the UAL even higher.
   - Market vs. Actuarial Value: In 2013, CalPERS changed the way that it values assets, from an actuarial valuation to a market valuation. This is more accurate, however, UAL increased based on this change.
   - Mortality Rates: CalPERS has changed its mortality rate assumptions to reflect employees are living longer and requiring benefits for a longer period of time.

Over the past few years, the District's UAL has grown from about $6 million to over $10 million, with funding status decreasing from about 81% to 74%. As shown in the chart below, projected estimated pension payments are increasing rapidly, from about $1.0 million in FY 2018 to $1.5 million in FY 2021. These payments are projected to grow annually to total close to $2.0 million by FY 2030, before dropping off abruptly in 2037.

As depicted in the upper "blue" bars, the UAL repayment schedule is driving the fluctuating shape of overall payments. This is due to the fact that there are multiple amortization components (called "bases") of the District's total $10 million UAL. As shown on page 9 of the attached excerpted pages of the CalPERS report, there are actually 14 different bases, all amortized over different time periods. From a budget predictability and financial sustainability perspective, this shape is not optimal.



PRESENTATION:

Eric Scriven of NHA Advisors will provide a presentation that summarize the above information in more detail, as well as presenting several alternative repayment strategies to improve budget predictability, enhance future fiscal sustainability, and potentially create cash flow savings for the District. The alternatives that will be discussed include:

1. **Fresh-Start**: This program is offered by CalPERS and "re-amortizes" the District's full UAL over a shorter time period, but with linear payments growing at 2.0% to 3.0% annually. The debt is still amortized at the same 7.0% interest rate that it is currently. Since the amortization is shortened, the District would save money on a cumulative basis, but the annual payments required would actually be higher in the near term. Once the District establishes this new payment schedule, it is "locked-in," and the District does not have flexibility to go back to the current one.

2. **Restructure with New Loan**: Similar to the District's 2012 pay off of its PERS Side Fund, it can borrow money from a bank (private placement) or investors (public offering) and use the proceeds to pay off all or a portion of the UAL. The new loan would be structured at a lower interest rate than the current 7.0% being charged by CalPERS, thereby creating the potential for cash flow and present value savings.

The most important benefit of the loan restructuring alternative is the ability to "re-shape" the District's overall payments to become "smoother" and more budget-friendly. The alternatives presented will differ in type (private placement vs public offering), size, interest rate and term, with potential savings quantified for each scenario and discussion of the pros and cons of each alternative.

Staff and Mr. Scriven will be available to answer questions regarding the proposals and will request direction from the Board.

FINANCIAL CONSIDERATIONS:

None at this time.

Attachment: GASB 68 Accounting Valuation Report for CCWD's Miscellaneous Plan, dated June 30, 2017, pages 5, 9,10 & 11

Plan's Funded Status

	June 30, 2015	June 30, 2016
1. Present Value of Projected Benefits (PVB)	$ 38,893,601	$ 41,386,440
2. Entry Age Normal Accrued Liability (AL)	33,192,692	35,707,446
3. Plan's Market Value of Assets (MVA)	25,752,255	25,884,352
4. Unfunded Accrued Liability (UAL) [(2) - (3)]	7,440,437	9,823,094
5. Funded Ratio [(3) / (2)]	77.6%	72.5%

This measure of funded status is an assessment of the need for future employer contributions based on the selected actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

Projected Employer Contributions

The table below shows projected employer contributions (before cost sharing) for the next six fiscal years. Projected results reflect the adopted changes to the discount rate described in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report. The projections also assume that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period.

	Required Contribution	Projected Future Employer Contributions (Assumes 7.375% Return for Fiscal Year 2016-17)					
Fiscal Year	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Normal Cost %	12.212%	12.8%	13.9%	13.9%	13.9%	13.9%	13.9%
UAL Payment	$564,813	$691,000	$793,000	$921,000	$1,033,000	$1,109,000	$1,173,000

Changes in the UAL due to actuarial gains or losses as well as changes in actuarial assumptions or methods are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A of Section 2. This method phases in the impact of unanticipated changes in UAL over a 5-year period and attempts to minimize employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years where there is a large increase in UAL the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the increase in the UAL is phased in.

Due to the adopted changes in the discount rate for the next two valuations in combination with the 5-year phase-in ramp, the increases in the required contributions are expected to continue for seven years from Fiscal Year 2018-19 through Fiscal Year 2024-25.

For projected contributions under alternate investment return scenarios, please see the "Analysis of Future Investment Return Scenarios" in the "Risk Analysis" section.

Schedule of Plan's Side Fund and Other Amortization Bases

There is a two-year lag between the valuation date and the start of the contribution fiscal year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2016.
- The employer contribution determined by the valuation is for the fiscal year beginning two years after the valuation date: Fiscal Year 2018-19.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the payment on the UAL for the fiscal year and adjusting for interest.

							Amounts for Fiscal 2018-19	
Reason for Base	**Date Established**	**Amortization Period**	**Balance 6/30/16**	**Payment 2016-17**	**Balance 6/30/17**	**Payment 2017-18**	**Balance 6/30/18**	**Scheduled Payment for 2018-19**
ASSET (GAIN)/LOSS	06/30/13	27	$3,201,349	$87,471	$3,346,809	$135,143	$3,453,598	$182,904
SHARE OF PRE-2013 POOL UAL	06/30/13	18	$3,954,407	$298,579	$3,936,651	$307,537	$3,908,303	$313,084
NON-ASSET (GAIN)/LOSS	06/30/13	27	$12,124	$331	$12,675	$512	$13,079	$693
NON-ASSET (GAIN)/LOSS	06/30/14	28	$2,841	$40	$3,009	$82	$3,146	$125
ASSET (GAIN)/LOSS	06/30/14	28	$(2,527,197)	$(35,545)	$(2,676,745)	$(73,223)	$(2,798,280)	$(111,418)
ASSUMPTION CHANGE	06/30/14	18	$1,646,946	$31,370	$1,735,902	$64,623	$1,796,961	$98,741
ASSET (GAIN)/LOSS	06/30/15	29	$1,511,896	$0	$1,623,398	$22,860	$1,719,436	$46,342
NON-ASSET (GAIN)/LOSS	06/30/15	29	$(125,955)	$0	$(135,244)	$(1,904)	$(143,245)	$(3,861)
ASSET (GAIN)/LOSS	06/30/16	30	$1,833,583	$0	$1,968,810	$0	$2,114,010	$29,301
NON-ASSET (GAIN)/LOSS	06/30/16	30	$(230,304)	$0	$(247,288)	$0	$(265,526)	$(3,680)
ASSUMPTION CHANGE	06/30/16	20	$543,403	$(18,775)	$602,933	$(19,338)	$667,438	$12,580
TOTAL			**$9,823,093**	**$363,471**	**$10,170,910**	**$436,292**	**$10,468,920**	**$564,811**

The (gain)/loss bases are the plan's allocated share of the risk pool's (gain)/loss for the fiscal year as disclosed on the previous page. These (gain)/loss bases will be amortized according to Board policy over 30 years with a 5-year ramp-up.

If the total Unfunded Liability is negative (i.e., plan has a surplus), the scheduled payment is $0, because the minimum required contribution under PEPRA must be at least equal to the normal cost.

30-Year Amortization Schedule and Alternatives

The amortization schedule on the previous page shows the minimum contributions required according to CalPERS amortization policy. There has been considerable interest from many agencies in paying off these unfunded accrued liabilities sooner and the possible savings in doing so. As a result, we have provided alternate amortization schedules to help analyze the current amortization schedule and illustrate the advantages of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on: 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternate "fresh start" amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. Note that the payments under each alternate scenario increase by 3 percent for each year into the future. **The schedules do not attempt to reflect any experience after June 30, 2016 that may deviate from the actuarial assumptions. Therefore, future amortization payments displayed in the Current Amortization Schedule may not match projected amortization payments shown in connection with Projected Employer Contributions provided elsewhere in this report.**

The Current Amortization Schedule typically contains individual bases that are both positive and negative. Positive bases result from plan changes, assumption changes or plan experience that result in increases to unfunded liability. Negative bases result from plan changes, assumption changes or plan experience that result in decreases to unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years such as:

- A positive total unfunded liability with a negative total payment,
- A negative total unfunded liability with a positive total payment, or
- Total payments that completely amortize the unfunded liability over a very short period of time

In any year where one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single "fresh start" base and amortizing it over a reasonable period.

The Current Amortization Schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS amortization policy. For purposes of this display, total payments include any negative payments. Therefore, the amount of estimated savings may be understated to the extent that negative payments appear in the current schedule.

30-Year Amortization Schedule and Alternatives

	Current Amortization Schedule		Alternate Schedules			
			20 Year Amortization		15 Year Amortization	
Date	**Balance**	**Payment**	**Balance**	**Payment**	**Balance**	**Payment**
6/30/2018	10,468,921	564,813	10,468,921	782,578	10,468,921	952,209
6/30/2019	10,655,733	685,950	10,430,081	806,055	10,254,306	980,776
6/30/2020	10,730,799	765,152	10,364,050	830,237	9,994,262	1,010,199
6/30/2021	10,729,331	853,061	10,268,091	855,144	9,684,552	1,040,505
6/30/2022	10,636,661	921,648	10,139,247	880,798	9,320,596	1,071,720
6/30/2023	10,466,086	949,298	9,974,316	907,222	8,897,453	1,103,872
6/30/2024	10,254,279	977,777	9,769,841	934,439	8,409,788	1,136,988
6/30/2025	9,997,342	1,007,110	9,522,083	962,472	7,851,841	1,171,098
6/30/2026	9,691,059	1,037,323	9,227,005	991,346	7,217,401	1,206,230
6/30/2027	9,330,881	1,068,443	8,880,244	1,021,087	6,499,765	1,242,417
6/30/2028	8,911,892	1,100,496	8,477,093	1,051,719	5,691,706	1,279,690
6/30/2029	8,428,789	1,133,511	8,012,467	1,083,271	4,785,430	1,318,081
6/30/2030	7,875,847	1,167,516	7,480,880	1,115,769	3,772,536	1,357,623
6/30/2031	7,246,887	1,202,542	6,876,414	1,149,242	2,643,965	1,398,352
6/30/2032	6,535,249	1,188,833	6,192,683	1,183,719	1,389,959	1,440,302
6/30/2033	5,785,332	1,173,219	5,422,801	1,219,231		
6/30/2034	4,996,288	1,135,411	4,559,343	1,255,808		
6/30/2035	4,188,229	1,094,279	3,594,302	1,293,482		
6/30/2036	3,363,199	516,652	2,519,051	1,332,286		
6/30/2037	3,075,870	510,092	1,324,290	1,372,255		
6/30/2038	2,774,149	502,673				
6/30/2039	2,457,863	517,753				
6/30/2040	2,102,625	533,286				
6/30/2041	1,705,093	458,698				
6/30/2042	1,355,532	454,567				
6/30/2043	984,472	405,301				
6/30/2044	637,096	297,417				
6/30/2045	375,893	182,694				
6/30/2046	214,304	165,835				
6/30/2047	58,267	60,377				
Totals	**22,631,725**		**21,028,161**		**17,710,061**	
Interest Paid	**12,162,805**		**10,559,241**		**7,241,141**	
Estimated Savings			**1,603,564**		**4,921,664**	

* This schedule does not reflect the impact of adopted discount rate changes that will become effective beyond June 30, 2016. For Projected Employer Contributions, please see Page 5.

Agenda Item

DATE: November 14, 2018

TO: Jeffrey Meyer, Interim General Manager

FROM: Peter Martin, Manager of Water Resources

SUBJECT: Discussion/Action Regarding the Approval of the Calaveras County Water District Local Hazard Mitigation Plan Update

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RECOMMENDED ACTION:

Motion:_____/_____ adopting Resolution No. 2018-_____ approving the Calaveras County Water District Local Hazard Mitigation Plan Update.

SUMMARY:

Over the past year, staff have been working to update the Calaveras County Water District's Local Hazard Mitigation Plan (LHMP). To be eligible for various grant funding programs via the California Office of Emergency Services (CalOES) and the Federal Emergency Management Agency (FEMA), the District is required to update the plan at a minimum interval of every five years. The District contracted with Wood Infrastructure and Environmental Solutions, Inc., formerly AMEC Foster Wheeler, to complete the plan update.

The District reconvened the Hazard Mitigation Planning Committee (HMPC), a group made up of various local agencies, government officials, and emergency planning specialists. The HMPC hosted three publicly noticed meetings to target specific updates and gather input from interested parties to ensure the most up-to-date information was incorporated in the LHMP. At the April 28, 2018 CCWD Board Meeting, a publicly noticed hearing was held to receive comments on the Draft LHMP, which was made available via the District website and in hard copy at the San Andreas Library and the lobby at CCWD Headquarters. Following the hearing, all comments received were incorporated, and the draft LHMP Update was submitted to CalOES and FEMA for their required review and approval.

The District received a letter dated October 22, 2018, from FEMA (attached) indicating that they have determined that the LHMP Update is approved pending adoption by the CCWD Board of Directors. FEMA will approve the plan upon receipt of the documentation of the District's formal adoption.

Staff are requesting that the Board of Directors adopt the resolution adopting the CCWD LHMP Update. A copy of the final draft plan is available on CCWD's website: https://ccwd.org/wp-content/uploads/2013/12/Final-Draft-LHMP-Update-2018-compressed.pdf

FINANCIAL CONSIDERATIONS:

None at this time. Adopting the LHMP Update is a requirement for the District to remain eligible for grant funding programs via CalOES and FEMA.

Attachments:

- *FEMA CCWD LHMP Approval Letter dated October 22, 2018*
- *CalOES CCWD LHMP Approval Letter dated October 5, 2018*
- *Resolution Adopting the Calaveras County Water District Local Hazard Mitigation Plan Update*

U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052

FEMA

October 22, 2018

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

Dear Mr. Martin,

We have completed our review of the *Calaveras County Water District Local Hazard Mitigation Plan* and have determined that this plan is eligible for final approval pending its adoption by the Calaveras County Water District.

Formal adoption documentation must be submitted to the FEMA Region IX office by the jurisdiction within one calendar year of the date of this letter, or the entire plan must be updated and resubmitted for review. We will approve the plan upon receipt of the documentation of formal adoption.

If you have any questions regarding the planning or review processes, please contact JoAnn Scordino, Community Planner, at (510) 627-7225 or by email at joann.scordino@fema.dhs.gov.

Sincerely,

for Juliette Hayes
Director
Mitigation Division
FEMA, Region IX

Enclosure

cc: Julie Norris, Mitigation and Dam Safety Branch Chief, California Governor's Office of Emergency Services
Jennifer Hogan, State Hazard Mitigation Officer, California Governor's Office of Emergency Services

REGION IX LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers states and FEMA mitigation planners an opportunity to provide feedback to the community.

- The **Regulation Checklist** provides a summary of FEMA's evaluation of whether the plan has addressed all requirements.
- The **Plan Assessment** identifies the plan's strengths as well as documents areas for future improvement. This section also includes a list of resources for implementation of the plan.
- The **Multi-Jurisdiction Summary Sheet** is a **mandatory** worksheet that is used to document which jurisdictions have participated in the planning process and are eligible to adopt the plan.
- The **Hazard Identification and Risk Assessment Matrix** is a tool for plan reviewers to identify if all components of Element B are met.

Jurisdiction: Calaveras County Water District	**Title of Plan:** Calaveras County Water District Local Hazard Mitigation Plan	**Date of Plan:** June 2018
Local Point of Contact: Peter Martin	**Address:** 120 Toma Court San Andreas, CA 95249	
Title: Water Resources Manager		
Agency: Calaveras County Water District		
Phone Number: (209) 754-3084	**E-Mail:** peterm@ccwd.org	

State Reviewer: Karen McCready-Hoover (916) 845-8177 Karen.McCready-Hoover@caloes.ca.gov 2nd Review Wendy Boemecke 916-926-9878 Wendy.boemecke@caloes.ca.gov	**Title:** Emergency Services Coordinator	**Date:** October 1, 2018
Date Received at State Agency	June 7, 2018	
Plan Not Approved		
Plan Approved/Sent to FEMA	October 5, 2018	

FEMA Reviewer: Jesse Carpentier	**Title:** Community Planner	**Date:** October 16, 2018
Date Received in FEMA Region IX	October 15, 2018	
Plan Not Approved		
Plan Approvable Pending Adoption	October 22, 2018	
Plan Approved		

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)		Location in Plan (section and/or page number)	Met	Not Met
A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	a. Does the plan document an opportunity for neighboring communities, local, and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, as well as other interested parties to be involved in the planning process?	Section 3.2.1 Appendix A	X	
	b. Does the plan identify how the stakeholders were invited to participate in the process?	Section 3.2.1	X	
A3. Does the plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))		Section 3.2.1 Appendix A	X	
A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))		Section 3.2.1, Table 3.5 Section 4.4 Appendix B (References)	X	
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))		Section 7.2.4	X	
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	a. Does the plan identify how, when, and by whom the plan will be **monitored** (how will implementation be tracked) over time?	Section 7.1.1 Section 7.2.1	X	
	b. Does the plan identify how, when, and by whom the plan will be **evaluated** (assessing the effectiveness of the plan at achieving stated purpose and goals) over time?	Section 7.2.2 Section 7.2.3	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)		Location in Plan (section and/or page number)	Met	Not Met
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))	a. Is there a description of each hazard's **impacts** on each jurisdiction (what happens to structures, infrastructure, people, environment, etc.)?	Chapter 4 (See Section 4 of plan review tool)	X	
	b. Is there a description of each identified hazard's overall **vulnerability** (structures, systems, populations, or other community assets defined by the community that are identified as being susceptible to damage and loss from hazard events) for each jurisdiction?	Chapter 4 (See Section 4 of plan review tool)	X	
B4. Does the plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))		Not Applicable.	X	
ELEMENT B: REQUIRED REVISIONS				
ELEMENT C. MITIGATION STRATEGY				
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))	a. Does the plan document each jurisdiction's existing authorities, policies, programs and resources?	Section 4.4	X	
	b. Does the plan document each jurisdiction's ability to expand on and improve these existing policies and programs?	Section 4.4	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)		Location in Plan (section and/or page number)	Met	Not Met
appropriate? (Requirement §201.6(c)(4)(ii))	b. Does the plan describe each community's process to integrate the data, information, and hazard mitigation goals and actions into other planning mechanisms?	Section 5.4 Section 7.2.3	X	
	c. The updated plan must explain how the jurisdiction(s) incorporated the mitigation plan, when appropriate, into other planning mechanisms as a demonstration of progress in local hazard mitigation efforts.	Section 7.2.3	X	
ELEMENT C: REQUIRED REVISIONS				
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (Applicable to plan updates only)				
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))		Section 4.3	X	
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))		Section 2.2	X	
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))		Section 2.1 Section 5.2	X	
ELEMENT D: REQUIRED REVISIONS				
ELEMENT E. PLAN ADOPTION				
E1. Does the plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))		Pending		
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))		Not Applicable.		

SECTION 2:
PLAN ASSESSMENT

INSTRUCTIONS: The purpose of this Plan Assessment is to offer the local community more comprehensive feedback to the community on the quality and utility of the plan in a narrative format. The Plan Assessment **must** be completed by FEMA.

The Assessment is an opportunity for FEMA to provide feedback and information to the community on: 1) suggested improvements to the plan; 2) specific sections in the plan where the community has gone above and beyond minimum requirements; 3) recommendations for plan implementation; and 4) ongoing partnership(s) and information on other FEMA programs, specifically Risk MAP and Hazard Mitigation Assistance programs.

The Plan Assessment is divided into two sections:

1) Plan Strengths and Opportunities for Improvement
2) Resources for Implementing Your Approved Plan

Plan Strengths and Opportunities for Improvement is organized according to the plan elements listed in the Regulation Checklist. Each element includes a series of italicized bulleted items that are suggested topics for consideration while evaluating plans, but it is not intended to be a comprehensive list. FEMA Mitigation Planners are not required to answer each bullet item, and should use them as a guide to paraphrase their own written assessment (2-3 sentences) of each element.

The Plan Assessment must not reiterate the required revisions from the Regulation Checklist or be regulatory in nature, and should be open-ended and to provide the community with suggestions for improvements or recommended revisions. The recommended revisions are suggestions for improvement and are not required to be made for the plan to meet Federal regulatory requirements. The italicized text should be deleted once FEMA has added comments regarding strengths of the plan and potential improvements for future plan revisions. It is recommended that the Plan Assessment be a short synopsis of the overall strengths and weaknesses of the Plan (no longer than two pages), rather than a complete recap section by section.

Resources for Implementing Your Approved Plan provides a place for FEMA to offer information, data sources and general suggestions on the overall plan implementation and maintenance process. Information on other possible sources of assistance including, but not limited to, existing publications, grant funding or training opportunities, can be provided. States may add state and local resources, if available.

Element C: Mitigation Strategy

Strengths:

1) Thorough and useful discussion of existing capabilities.
2) I appreciate that the mitigation actions are fleshed out following Table 5.1. It looks like the District already has projects queued up as soon as funding becomes available, which is a really good position to be in.

Opportunities for Improvement:

1) Table 4.53 has a Y/N column but there's no explanation for what is being indicated by it; I'm assuming it means whether it is a District regulatory capability or not, but it should be clarified for readers.
2) I suggest clarifying what "ongoing" means in the mitigation action plan; I'm not sure if this means an action is in progress or is a continuous program/initiative. What's the difference between "started" and "ongoing"? The following description of each mitigation action helped clarify this a bit, but I suggest defining "ongoing" or using different terminology to clarify action status.

Element D: Plan Update, Evaluation, and Implementation (*Plan Updates Only*)

Strengths:

1) It was helpful to see a summary of what was updated in the plan, section by section.

IS-212.b Introduction to Unified HMA
http://www.training.fema.gov/is/courseoverview.aspx?code=IS-212.b
IS-277 Benefit Cost Analysis Entry Level
http://www.training.fema.gov/is/courseoverview.aspx?code=IS-277
E-212 HMA: Developing Quality Application Elements
E-213 HMA: Application Review and Evaluation
E-214 HMA: Project Implementation and Programmatic Closeout
E-276 Benefit-Cost Analysis Entry Level

GIS and Hazus-MH

IS-922 Application of GIS for Emergency Management
http://www.training.fema.gov/is/courseoverview.aspx?code=IS-922
E-190 ArcGIS for Emergency Managers
E-296 Application of Hazus-MH for Risk Assessment
E-313 Basic Hazus-MH

Floodplain Management

E-273 Managing Floodplain Development through the NFIP
E-278 National Flood Insurance Program/ Community Rating System

Potential Funding Sources

Hazard Mitigation Grant Program

POC: FEMA Region IX and State Hazard Mitigation Officer
Website: https://www.fema.gov/hazard-mitigation-grant-program

Pre-Disaster Mitigation Grant Program

POC: FEMA Region IX and State Hazard Mitigation Officer
Website: https://www.fema.gov/pre-disaster-mitigation-grant-program

Flood Mitigation Assistance Grant Program

POC: FEMA Region IX and State Hazard Mitigation Officer
Website: https://www.fema.gov/flood-mitigation-assistance-grant-program

Emergency Management Performance Grant Program

POC: FEMA Region IX
Website: https://www.fema.gov/emergency-management-performance-grant-program

SECTION 4:
HAZARD IDENTIFICATION AND RISK ASSESSMENT MATRIX (OPTIONAL)

INSTRUCTIONS: This matrix can be used by the plan reviewer to help identify if all of the components of Element B have been met. List out natural hazard names that are identified in the plan in the column labeled "Hazards" and put a "Y" or "N" for each component of Element B.

HAZARD IDENTIFICATION AND RISK ASSESSMENT MATRIX								
Hazard	**Type**	**Location**	**Extent**	**Previous Occurrences**	**Probability**	**Impacts**	**Vulnerabilities**	**Mitigation Actions**
Heat	§4.2.2	§4.2.2	§4.2.2	§4.2.2, Table 4.4 Table 4.7	Table 4.2, §4.2.2	§4.2.2, Table 4.4	Figure 1.1, §1.3.1, §4.2.2, §4.3	§5.3
Storms	§4.2.3	§4.2.3	See subtypes	See subtypes	Table 4.2, §4.2.3	See subtypes	See subtypes	See subtypes
• Heavy rain	§4.2.3	§4.2.	§4.2.3 Figures 4.7-10	§4.2.3, Table 4.3, Table 4.4 Table 4.7	Table 4.2, §4.2.3	Table 4.4, Table 4.7, Table 4.14	Figure 1.1, §1.3.1, §4.3	§5.4, Table 5.1, #3, #5, #18
• Hail	§4.2.3	§4.2.3, Fig. 4.12	§4.2.3, Fig. 4.12, Table 4.9	§4.2.3, Fig. 4.12, Table 4.7, Table 4.14	Table 4.2, §4.2.3	Table 4.7, Table 4.14	Figure 1.1, §1.3.1, §4.3	
• Lightening	§4.2.3	§4.2.3	§4.2.3	Table 4.7, Table 4.14	Table 4.2, §4.2.3	§4.2.3, Table 4.7, Table 4.14	Figure 1.1, §1.3.1, §4.3	§5.4, Table 5.1, #12, #17
Tornado	§4.2.4	§4.2.3, Fig. 4.12	Fig. §4.12, 4.2.4	Fig. 4.12, Table 4.4 , §4.2.4	Table 4.2, §4.2.4	§4.2.3, Table §4.4, §4.2.4	Figure 1.1, §1.3.1, §4.3	§5.3
Wind	§4.2.3, §4.2.5	§4.2.3, Fig. 4.12	Fig. §4.12	Fig. 4.12, Table 4.4, Table 4.7, Table 4.14	Table 4.2, §4.2.5	§4.2.3, Table 4.4, Table 4.7, §4.2.5, Table 4.14	Figure 1.1, §1.3.1, §4.3	
Cold	§4.2.6	§4.2.6	§4.2.6	Table 4.4, Table 4.15, Fig. 4.19	Table 4.2, §4.2.6	Table 4.4, Table 4.7, §4.2.6	Figure 1.1, §1.3.1, §4.3	
Avalanche	§4.2.7	§4.2.7		Table 4.4, §4.2.7	Table 4.2, §4.2.7	Table 4.2, Table 4.4, §4.2.7	Figure 1.1, §1.3.1, §4.3	§5.3
Drought	§4.2.9	§4.2.9	§4.2.9	Table 4.3, §4.2.9, Table 4.19	Table 4.2, §4.2.9	Table 4.2, §4.2.9	Figure 1.1, §1.3.1, §4.3	§5.4, Table 5.1, #14, #19, #21
Earthquake	§4.2.10, Fig. 4.27	§4.2.10	§4.2.10	§4.2.10	Table 4.2, §4.2.10, Fig. 4.27, §4.2.10	Table 4.2, §4.2.10	§1.3.1, §4.2.10, §4.3Figures 1.1, 4.27	§5.3
Hazard	**Type**	**Location**	**Extent**	**Previous Occurrences**	**Probability**	**Impacts**	**Vulnerabilities**	**Mitigation Actions**

EDMUND G. BROWN JR.
GOVERNOR

MARK S. GHILARDUCCI
DIRECTOR

Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES

October 5, 2018

Ms. Juliette Hayes, Mitigation Division Director
Federal Emergency Management Agency, Region IX
1111 Broadway Street, Suite 1200
Oakland, California 94607

Subject: Calaveras County Water District Local Hazard Mitigation Plan

Dear Ms. Hayes:

The California Governor's Office of Emergency Services (Cal OES) is forwarding the Local Hazard Mitigation Plan for the Calaveras County Water District for formal review. Enclosed is the CD containing the electronic documents.

If you have any questions, please contact me at (916) 845-8187, or Karen McCready-Hoover, Emergency Services Coordinator, Hazard Mitigation Planning Division, at (916) 845-8177.

Sincerely,

ADAM SUTKUS, Chief
Mitigation Planning Division

Enclosure

c: Peter Martin, Water Resources Manager, Calaveras County Water District

3650 SCHRIEVER AVENUE • MATHER, CA 95655
MITIGATION PLANNING DIVISION
(916) 845-8177 • (916) 845-8397

Peter Martin

From: McCready-Hoover, Karen@CalOES [Karen.McCready-Hoover@CalOES.ca.gov]
Sent: Thursday, October 04, 2018 3:37 PM
To: Peter Martin
Cc: Boemecke, Wendy@CalOES
Subject: Calaveras County Water District LHMP
Attachments: Calaveras Co WD to FEMA 10-5-18.pdf

Hi Peter,

Here is the transmittal letter forwarding the Calaveras County Water District local hazard mitigation plan to FEMA Region IX for formal review. It will go out in tomorrow morning's mail.

Please understand that while Wendy Boemecke and I both performed thorough reviews of the plan, the FEMA reviewer will also thoroughly review the plan and may request additional information. In that event, you can work directly with them.

Once the plan is approvable pending adoption, you may contact me if you want to consider getting Government Code 65302.6 (AB 2140) compliance. In that event, you can adopt the LHMP for FEMA approval and AB 2140 compliance on the same adoption resolution.

Feel free to contact me if there is anything else I can help you with.

Sincerely,

Karen McCready-Hoover
Emergency Services Coordinator
California Governor's Office of Emergency Services
Mitigation Planning Division
3650 Schriever Avenue
Mather, California 95655
(916) 845-8177
Karen.McCready-Hoover@caloes.ca.gov

Save Our Water 

RESOLUTION NO. 2018 -

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

ADOPTING THE CALAVERAS COUNTY WATER DISTRICT LOCAL HAZARD MITIGATION PLAN UPDATE

WHEREAS, the Calaveras County Water District recognizes the threat that natural hazards pose to people, property, and the District's critical facilities within our community; and

WHEREAS, undertaking hazard mitigation actions will reduce the potential for harm to people, property, and District facilities from future hazard occurrences; and

WHEREAS, the U.S. Congress passed the Disaster Mitigation Act of 2000 ("Disaster Mitigation Act") emphasizing the need for pre-disaster mitigation of potential hazards; and

WHEREAS, the Disaster Mitigation Act made available hazard mitigation grants to state and local governments; and

WHEREAS, an adopted Local Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre-and post-disaster mitigation grant programs; and

WHEREAS, the Calaveras County Water District fully participated in the FEMA-prescribed mitigation planning process to prepare this local hazard mitigation plan; and

WHEREAS, the California Office of Emergency Services and Federal Emergency Management Agency, Region IX officials have reviewed the Calaveras County Water District Local Hazard Mitigation Plan and approved it contingent upon this official adoption by the Board of Directors of the Calaveras County Water District; and

WHEREAS, the Calaveras County Water District desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the Calaveras County Water District Local Hazard Mitigation Plan Update; and

WHEREAS, adoption by the Board of Directors of the Calaveras County Water District, demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this Local Hazard Mitigation Plan; and

WHEREAS, adoption of this resolution legitimizes the plan and authorizes responsible agencies to carry out their responsibilities under the plan; and

NOW, THEREFORE BE IT RESOLVED, the Board of Directors of the Calaveras County Water District formally adopts the Calaveras County Water District Local Hazard Mitigation Plan, attached hereto and made a part hereof, as submitted to, and ultimately approved by, the FEMA Region IX office on October 22, 2018.

PASSED AND ADOPTED this 14th day of November 2018 by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

CALAVERAS COUNTY WATER DISTRICT

_____
Scott Ratterman, President
Board of Directors

ATTEST:

_____
Rebecca Hitchcock
Clerk of the Board

Agenda Item

DATE: November 14, 2018

TO: Jeffrey Meyer, Interim General Manager

FROM: Peter Martin, Manager of Water Resources

SUBJECT: Discussion/Direction for the 2018 Draft Supplemental West Point Water System Master Plan Update

---

RECOMMENDED ACTION:

Discussion/Direction from the Board to Finalize the 2018 Draft Supplemental West Point Water System Master Plan Update.

SUMMARY:

Staff has been updating the Water Master Plan for the West Point Water System as a follow-on work product to the Calaveras County Mokelumne River Long-Term Water Needs Study, which was completed in 2017. The Plan is intended to be a supplement to the Master Plan adopted in May 2005 by Resolution 2005-30, and is narrowly focused on water supply reliability and redundancy for the 20-year planning horizon. Furthermore, the draft supplemental Master Plan is responsive to request by State Water Resources Control Board staff for more information regarding the District's request for a time extension for the Bear Creek water right permit 15452, a tributary to the Middle Fork of the Mokelumne River.

Mr. Jack Scroggs, P.E. of KASL Engineering and Mr. Jeff Meyer, P.E. of Western Hydrologics will make a presentation of the Draft Supplemental Master Plan. The presentation will provide an overview of the contents of the Plan, including the evaluation of water supply improvement opportunities and recommended facility improvements. Near term capital improvement costs from the Master Plan will be used by staff in the development of future capital improvement plans. Comments received after the presentation today will be utilized in the development of a Final Supplemental Master Plan, which will be brought back to the Board for adoption at a future meeting.

FINANCIAL CONSIDERATIONS:

None at this time.

Attachments: *Draft-2018 Supplemental West Point Water System Master Plan, November 2018*

DRAFT

FOR PUBLIC RELEASE

2018 Supplemental West Point Water System Master Plan

Calaveras County Water District

Calaveras County, California

Prepared for:

Calaveras County Water District
120 Toma Ct.
San Andreas, CA 95249

Prepared by:

KASL Engineering, Western Hydrologics, and ECORP Consulting, Inc.

November 2018

ECORP Consulting, Inc. has assisted public and private land owners with environmental regulation compliance since 1987. We offer full service capability, from initial baseline environmental studies through environmental planning review, permitting negotiation, liaison to obtain legal agreements, mitigation design, and construction monitoring and reporting.

Citation: ECORP Consulting, Inc. (ECORP). 2018. West Point Water Supply Master Plan. Prepared for Calaveras County Water District, Rocklin, California. November 2018.

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1.0 INTRODUCTION, PURPOSE, AND SCOPE

1.1 Water System Master Plan Background

The Calaveras County Water District (CCWD or District) owns and operates the West Point Water system which provides potable water service to approximately 600 residential and commercial customers located in the Calaveras County communities of West Point, Wilseyville, Bummerville and Railroad Flat. Raw water is supplied to the system with existing diversions from Bear Creek and the Middle Fork of the Mokelumne River. Bear Creek supplies originate from a smaller watershed that is tributary to the Middle Fork of the Mokelumne River. During anything less than above average water years the year-round water supply from Bear Creek has been unreliable. Raw water from the Bear Creek diversion flows, by gravity, to the District's Regulating Reservoir located near the West Point Water Treatment Plant (WTP). CCWD supplements the Bear Creek supply with Middle Fork Mokelumne River water purchased through an agreement with the Calaveras Public Utility District (CPUD). Middle Fork Mokelumne River is pumped to the West Point WTP but can also be temporarily stored in the District's Regulating Reservoir. There is a small dam, Wilson Dam, located upstream of CCWD's Bear Creek Diversion which is non-functioning and does not store any water. Upstream of the District's Middle Fork Mokelumne River Pump Station intake is Schaads Reservoir, owned and operated by the CPUD.

The West Point WTP was improved and expanded in the early 2000s and provides treated water capacity up to one million gallons per day (MGD). This capacity is adequate to serve existing West Point area customers, with additional capacity available to serve existing plus new customers projected through the year 2100. Similarly, treated water storage has been recently expanded at the West Point WTP which adequately meets existing and projected Maximum Day Plus Fire Flows and Peak Hour Demands.

In 2004, the District received a Water System Improvements Final Feasibility Report (HDR, November 2004) which included recommended water supply, storage and distribution improvements for the West Point service area. These elements were also incorporated into the 2005 West Point Water System Master Plan (HDR, May 2005), which is also the last time the Water System Master Plan was updated. Many of the improvements recommended in the 2004 Feasibility Study and 2005 West Point Water System Master Plan have been implemented including water system distribution improvements within West Point and Wilseyville, the Bummerville Water Storage Tank replacement and a new 16-inch diameter HDPE raw water pipeline from the Bear Creek diversion. Water Master Plan elements included in the 2004 Feasibility Report which have not yet been implemented include:

- Improvements to increase the capacity and stability of Wilson Dam
- Improvements to increase the capacity of the West Point Regulating Reservoir
- Possible modifications to the Bear Creek Diversion
- New intake facilities at the Middle Fork Mokelumne River (MFMR) Pump Station
- Improvements to increase the capacity of the MFMR Pump Station
- Replacement of the MFMR pipeline from the new MFMR pump station to the West Point WTP

- Improvements to the Bummerville Distribution System

In addition, the District has identified the construction of additional West Point Water Treatment Facilities for redundancy as a critical Master Plan need.

The above-listed West Point area storage, diversion, piping and pumping improvements to meet existing and future demands in the West Point water service area are the principal subjects of this Master Plan Report.

Recently, ECORP Consulting, Inc. (ECORP) prepared a report which identified Calaveras County's long- term demands for Mokelumne River water (Calaveras County Mokelumne River Long-Term Water Needs Study, ECORP, October 2017). Although that study was a county-wide evaluation, updated long-term demands were specifically determined for the West Point service area and are included in this Study.

Storage improvements for Wilson Dam and the West Point Regulating Reservoir, and capacity improvements to the MFMR pump station and pipeline were recommended for further consideration in the conclusions of the Long-Term Needs Study. Also included in this Study are findings and recommendations in the Long-Term Needs Study regarding CPUD's Schaads Reservoir and improvements to the Middle Fork Mokelumne River water supply. This study is meant to be supplemental to the 2005 West Point Water System Master Plan, in that it is focused on infrastructure necessary for water supply reliability and resiliency.

1.2 Existing Location / Existing Facilities

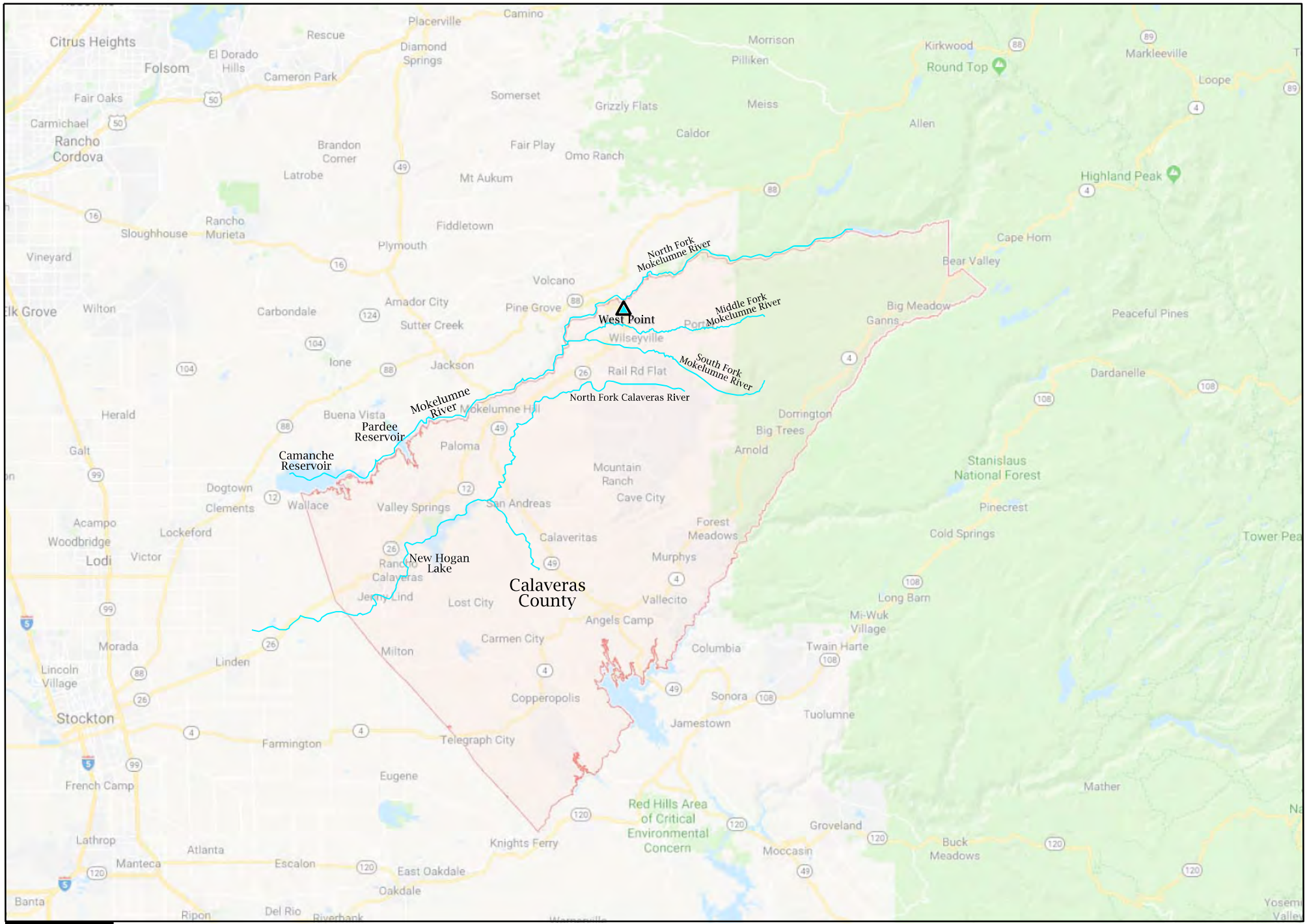
1.2.1 Location

West Point, and surrounding communities served by the West Point Water System, are located in the north central section of Calaveras County and the CCWD boundaries. A location map is presented in **Figure 1.**

The principal facilities discussed in this Supplemental West Point Water System Master Plan; Wilson Dam, the Bear Creek Diversion and Pipeline, the West Point Regulating Reservoir, the Middle Fork Mokelumne River Pump Station and the Middle Fork Mokelumne River raw water supply pipeline are shown with respect to the West Point WTP in **Figure 2**. Existing Schaads Reservoir and a possible Forest Creek - Middle Fork Reservoir site are located upstream of the MFMR diversion.

1.2.2 Wilson Dam

Wilson Dam is located upstream of the District's Bear Creek Diversion. According to available records, Wilson Dam was originally constructed about 1937 by the predecessor to Sierra Pacific Industries, which has landholdings surrounding the small reservoir. The existing embankment is approximately 25 feet high and approximately 150 feet long. The current operating capacity is approximately 25 acre-feet (AF), the facility has no usable outlet control and doesn't allow for the District to actively store and manage water supplies. Due to stability concerns, CCWD lowered the maximum operating levels below 25 feet in the 1990's. With year-round releases and losses due to seepage and lack of functioning outlet controls, there is currently no reliable storage in Wilson Dam when needed during summer-fall months. If Wilson Dam were improved, operated at its available capacity and the original spillway elevation, the size would then subject the facility to Division of Safety of Dams (DSOD) regulations.



FILE: S:\2517-01 West Point. Mokelumne River\Study A - West Point Water System\Master Plan\Figure\FIG_1.dgn
DATE: 3/29/2018

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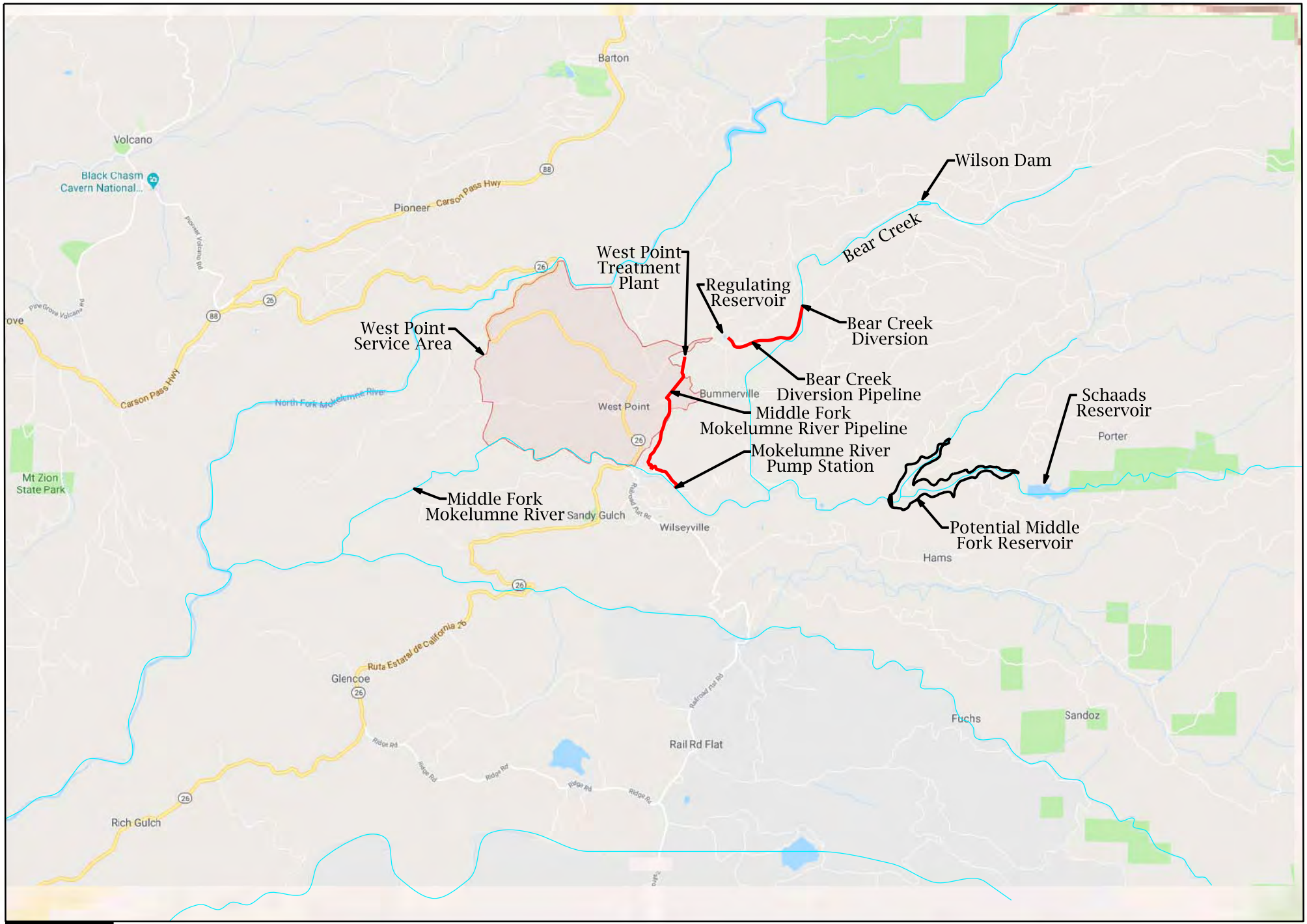
West Point Location Map

FIGURE 1



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DATE: 3/29/2018

CONSULTING KASL ENGINEERS

Location of West Point Facilities

FIGURE 2

Exploratory dam safety investigations conducted by Woodward Clyde-Sherard in 1963, revealed that the original construction of the dam embankment did not make provision for under seepage cutoff. Consequently, the reservoir seeps through the underlying material and along the drain pipe and a sinkhole has developed along the upstream embankment slope. The sinkhole was repaired in late 2017 but does not address the underlying design issues with seepage. Investigations during summer months also confirm that the outlet drain pipe is damaged.

Existing conditions at Wilson Dam are shown in **Figure 3.**

CCWD requested the evaluation of Wilson Dam modifications including consideration of the following alternatives:

1. Repair the existing embankment, correct underlying seepage, replace the damaged outlet works and restore or expand the storage capacity of Wilson Reservoir consistent with the recommendations of the Long-Term Mokelumne River Water Needs Study.

2. Repair the existing embankment, correct underlying seepage, replace the damaged discharge pipe but reduce the height of the embankment and the spillway so that a reduced volume of water is retained but recreational and aesthetic values of the impoundment are kept.

3. Remove the embankment and damaged pipe and pursue a meadow restoration project in the existing upstream impoundment area, and immediately adjacent upstream reaches.

In the Mokelumne River Long-Term Water Needs Study, ECORP determined that restoration of Wilson Dam and expansion to provide up to 50 AF of available storage may be beneficial to the West Point service area and should, therefore, be considered and evaluated further. The benefits and costs of Alternatives 1, 2 and 3 described above will be considered in this Supplement to the Master Plan.

1.2.3 Bear Creek Diversion Structure and Pipeline

Water from Bear Creek is diverted via a permanent concrete check dam to the Bear Creek Diversion structure and pipeline. A culvert pipe equipped with a slide gate is used to regulate the rate of diversion. The check dam frequently fills with sediment. Diverted water is passed to a small concrete stilling basin and then through a Parshall type flume to the Bear Creek Raw Water Supply Pipeline. The flow measuring equipment that was initially installed at the Parshall Flume has been removed. The diversion structure is located in a relatively remote area along the Creek which makes it difficult to secure equipment installed at this location. In addition, where the diversion is located, the depth of the canyon makes it impractical to provide radio transmission of flow conditions to the West Point Water Treatment Plant. Existing conditions at the Bear Creek Diversion Structure are shown in **Figure 4**.

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Wilson Dam

FIGURE 3

Bear Creek Diversion

FIGURE 4

FILE: S:\2517-01 West Point. Mokelumne River\Study A - West Point Water System\Master Plan\Figure\FIG_4.dgn
DATE: 3/29/2018

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Currently, there is no consistent flow measurement of water entering the Bear Creek Diversion. The District is permitted to divert up to 4 cfs from the Bear Creek and up to 150 acre-feet annum, by storage. The District does measure and record the flow from the Regulating Reservoir to the West Point WTP. This flow can be a mix of Bear Creek and Middle Fork Mokelumne River water. A reliable flow measuring device is needed at the discharge of the Bear Creek pipeline into the Regulating Reservoir. Bear Creek flow metering alternatives are discussed in this Supplement to the Master Plan.

After the 2004 West Point Feasibility Study was completed, CCWD authorized the construction of a replacement of the Bear Creek Diversion Pipeline. The reconstructed pipeline followed the alignment of the pre-existing pipeline which was built by logging corporations and the West Point Ditch Company prior to CCWD ownership of the system beginning in 1954. The existing pipeline is constructed with a 16-inch High Density Polyethylene (HDPE) pipe. No additional improvements to the Bear Creek Pipeline are proposed at this time.

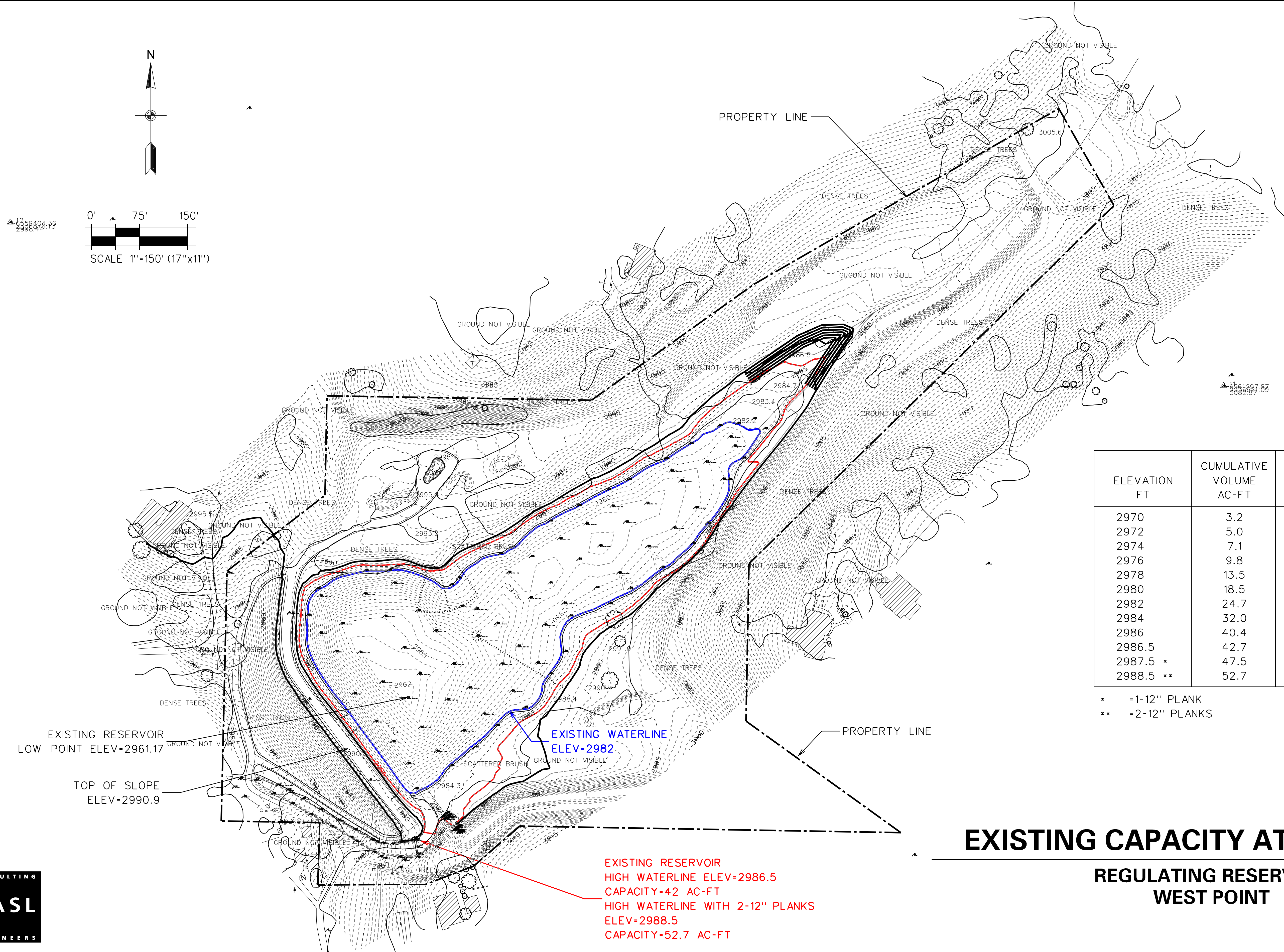
1.2.4 West Point Regulating Reservoir

The West Point Regulating Reservoir was constructed in 1964. The dam is approximately 35 feet high and 500 feet long. Existing conditions are shown in **Figure 5**. Bear Creek water enters the Regulating Reservoir on the south side near the spillway. The reservoir outlet includes a slanted sluice gate connected to a bottom outlet pipe and further, a series of valves which regulate gravity flows to the West Point WTP. Middle Fork Mokelumne River water can also enter the Regulating Reservoir through the reverse direction of the dam's outlet pipe when water from the MFMR Pump Station bypasses the West Point WTP and flows back into the Regulating Reservoir.

Aerial, topographic, and bathymetric surveys of the Regulating Reservoir were conducted in 2017. The top of the existing reservoir embankment is constructed at elevation 2,990.9' (NAVD 88 Datum). The existing reservoir high water line is elevation 2,986.5'. At this high water mark, the existing capacity of the Regulating Reservoir was determined to be 42 AF. DSOD permits the District to increase the storage capacity seasonally through the temporary installation of spillway "stop logs." When two, 12-inch wide stop logs are placed across the spillway, the high water elevation is increased to 2,988.5' and the Regulating Reservoir capacity is increased to 52.7 AF. These are typically installed by CCWD staff in May and removed in late October.

In the *Mokelumne River Long-Term Water Needs Study*, ECORP suggested that the capacity of the Regulating Reservoir be increased to 150 AF. Preliminary Plans and the estimated cost to increase the Regulating Reservoir to this capacity are presented in this Supplemental Master Plan Report.

With no screening of the discharge from the Regulating Reservoir, sediment and other debris have the potential to freely enter the West Point WTP through the existing bottom outlet structure. Water quality and treatability issues also occur with the outlet located near the bottom. As shown in **Figure 6**, the District has placed a floating mechanical aerator near the reservoir outlet to improve dissolved oxygen levels in the water delivered to the WTP when needed. This is in addition to three other existing aerators in the middle of the reservoir that always operate. A floating screened outlet would prevent sediment and debris from entering the West Point WTP from the Regulating Reservoir. With the floating inlet located near the surface outlet rather than near the bottom, the best water quality available in the Reservoir would be delivered to the West Point WTP. Reservoir outlet improvements are presented in this Master Plan Report.



ELEVATION FT	CUMULATIVE VOLUME AC-FT	SURFACE AREA SF
2970	3.2	33,800
2972	5.0	44,700
2974	7.1	52,000
2976	9.8	64,500
2978	13.5	96,700
2980	18.5	121,700
2982	24.7	146,800
2984	32.0	169,200
2986	40.4	197,000
2986.5	42.7	203,000
2987.5 *	47.5	217,500
2988.5 **	52.7	233,600

* =1-12" PLANK
** =2-12" PLANKS

EXISTING CAPACITY AT RESERVOIR

REGULATING RESERVOIR
WEST POINT

CONSULTING KASL ENGINEERS

FIGURE 5

FILE: S:\2517-01 West Point Mokelumne River\Study A - West Point Water System\Master Plan\Figure\FIG_6.dgn
DATE: 3/29/2018

CONSULTING
KASL
ENGINEERS

West Point Regulating Reservoir

FIGURE 6

1.2.5 Middle Fork Mokelumne River (MFMR) Pump Station Intake Facilities

A topographic survey of existing conditions and facilities at the MFMR Pump Station and Pump Station intake facilities is presented in **Figure 7**. A concrete diversion structure has been constructed across the Middle Fork at this location. As shown in the photo, **Figure 8,** the existing structure permits stop logs to be placed along the top of the diversion to raise the water level upstream of the pump station intake.

According to plans available for the MFMR Pump Station there are 12-inch diameter collectors located in the gravel stream bed upstream of the diversion. Prior to the high runoff which occurred in late 2016 and early 2017, there was also a sub-surface perforated collector pipe along the upstream face of the diversion structure. As shown in **Figure 9**, this perforated pipe was damaged during high flows and removed. Restoration of this facility occurred in early summer 2018, utilizing a partial grant from Federal Emergency Management Agency under their disaster recovery grant programs. **Figure 10** shows the repaired intake.

1.2.6 Middle Fork Mokelumne River (MFMR) Pump Station

The existing MFMR Pump Station has an existing capacity of 200 gpm. During recent drought periods when the Bear Creek supplies were severely depleted, increasing the capacity of the MFMR Pump Station was identified by CCWD as a priority to meet existing and projected West Point Maximum Day Demands. The existing capacity of the MFMR pump station falls well below the ±700 gpm (1 MGD) capacity of the West Point WTP and is less than Master Plan maximum day demands of 500 gpm estimated for the West Point WTP service area.

The existing low ground elevation at the MFMR Pump Station site is approximately 2,484.5. This elevation is well below historic high water elevation marks measured at approximately elevation 2,486 in the vicinity of the MFMR Pump Station. FEMA Flood Level Maps were reviewed for the MFMR Pump Station area but the existing 100-year flood level for this location was not able to be determined more precisely from the FEMA maps. Improvements to increase the capacity of the MFMR Pump Station to ±500 gpm and to raise the pump station floor elevation above the high water elevation of approximately 2,486 are presented in this Master Plan Report. Additional site improvements are also proposed to improve existing pump station access from Charles Avenue. The existing MFMR Pump Station site includes a storage building and an abandoned filter, remnants of previously abandoned water treatment facilities. These would also be removed with the new pump station improvements. The existing site includes an old water storage tank which has been converted to a standby generator building. While this is a unique structure, the existing standby generator capacity (8kW) will be too small to serve proposed MFMR Pump Station improvements.

Currently, there is no direct system control or communication between the West Point WTP and the MFMR Pump Station. Proposed pump station improvements evaluated in this Master Report include radio or fiber optics telemetry to/from the West Point WTP so that the CCWD Operator at the West Point WTP can remotely start, stop and monitor the MFMR pumps, view the MFMR Pump Station Programmable Logic Controller (PLC) and respond to pump station alarm conditions.

LEGEND

- 12"RW — EXISTING RAW WATER LINE
- 6"TW — EXISTING TREATED WATER LINE
- 2488 — EXISTING CONTOUR MINOR
- 2485 — EXISTING CONTOUR MAJOR

(E) MIDDLE FORK MOKELUMNE RIVER PUMP STATION

(E) PUMP INTAKE PIPES

8"W FROM WEST POINT WTP

6"W TO WEST POINT WTP

12" PVC INTAKE

(E) PUMP STATION

(E) 8' WIDE GATE

(E) CHAIN LINK FENCE

TO DISTRIBUTION

(E) AC DRIVEWAY

6' CHAINLINK FENCE

MIDDLE FORK MOKELUMNE RIVER

CHARLES AVE

FIGURE 7

CONSULTING KASL ENGINEERS

FILE: S:\2517-01 West Point Mokelumne River\Study A - West Point Water System\Exhibits\Fig_7 11x17.dgn
DATE: 2/8/2018

FILE: S:\2517-01 West Point Mokelumne River\Study A - West Point Water System\Master Plan\Figure\FIG_8.dgn
DATE: 3/29/2018

CONSULTING
KASL
ENGINEERS

Middle Fork Mokelumne River
Pump Station Intake Diversion Structure

FIGURE 8

Remnant Pump Station Intake Pipe

Pump Station Intake Pipe Manifold Removed From Service

Middle Fork Mokelumne River Pump Station Intake

FIGURE 9

FILE: S:\2517-01 West Point. Mokelumne River\Study A - West Point Water System\Master Plan\Figure\FIG_9.dgn
DATE: 3/29/2018

CONSULTING KASL ENGINEERS

FILE: S:\2517-01 West Point-Mokelumne River\Study A - West Point Water System Master Plan\Figure\FIG_10.dgn
DATE: 10/17/2018

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KASL
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Middle Fork Mokelumne River Pump Station Intake
Repaired Summer 2018

FIGURE 10

CCWD has discussed the possibility that a small "satellite" water treatment facility with capacity of approximately 200 gpm could be constructed, in the future, to serve the Wilseyville area. The Wilseyville WTP would be served by the future construction of the Middle Fork Ditch Pipeline. If a separate Wilseyville WTP was constructed, the capacity of the proposed MFMR Pump Station could be reduced but would still exceed the current capacity of 200 gpm.

MFMR Pump Station improvements will be designed and constructed consistent with the new MFMR pipeline proposed for delivery of MFMR water to the West Point WTP. MFMR Pump Station and pipeline improvements are described in this Supplemental Master Plan Report.

1.2.7 Middle Fork Mokelumne River (MFMR) Supply Pipeline

The existing alignment of the 6-inch diameter MFMR supply pipeline to the West Point WTP is shown in **Figure 11**. The existing raw water pipeline crosses the Middle Fork of the Mokelumne River along the face of the existing MFMR pump station intake diversion structure and then continues west along Barney Way, north along an existing CCWD pipeline easement to Acorn Way, north along Acorn Way, then north along an existing CCWD easement beginning at the intersection of Acorn Way and Bald Mountain Road and ending at Smitty Lane, then west along Smitty Lane to the West Point WTP; a distance of some 10,300 feet (±1.94 miles). To meet the future MFMR design demand of 500 gpm replacement of the existing 6-inch pipeline with an 8-inch diameter main is proposed.

Currently the delivery of Middle Fork Mokelumne River water to the West Point WTP is accomplished in two stages. The existing MFMR pumps lift the raw water to an intermediate pump station located on Acorn Way. Second stage pumping to the West Point WTP is then provided by the Acorn Way Pump Station. While this scheme reduces the pipeline design pressures along Barney Way the MFMR replacement pipeline is proposed with a single lift and the elimination of the Acorn Way Pump Station. The Acorn Way Pump Station is difficult to access, operate and maintain. Replacement of the existing pipeline with transmission facilities that can safely operate at higher pressures is preferred to the continued operation and maintenance of the Acorn Way booster pump station.

1.2.8 West Point Water Treatment Plant

The existing West Point Water Treatment Plant is a relatively new (circa early 2000s) One (1) MGD capacity, microfloc type, plant with upflow clarification, downflow multimedia filtration and disinfection. The design of the plant is similar to other existing CCWD facilities located at Jenny Lind and at Copper Cove. The 1 MGD capacity is provided in a single treatment plant train. Operational flexibility would be provided if a second, 1 MGD, microfloc type, water treatment plant was constructed allowing either plant to be removed from service without reduction in capacity. The existing 1 MGD plant will meet treated water demands projected for the West Point service area through the year 2100.

EXISTING WATERLINE ALIGNMENT MIDDLE FORK PUMP STATION TO WEST POINT WATER TREATMENT PLANT

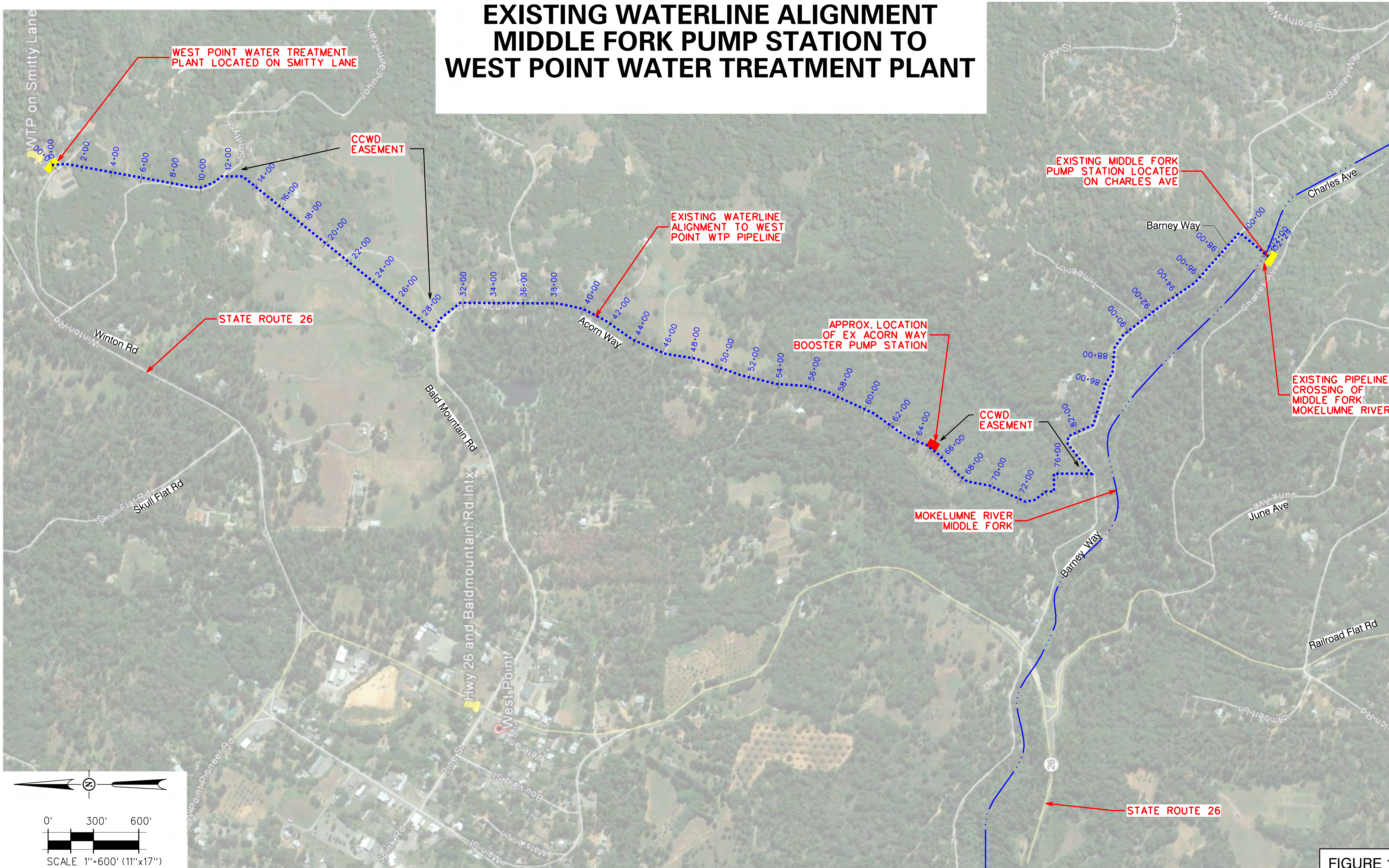

FIGURE 11

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DATE: 10/17/2018

1.2.9 Treated Water Storage

Since completion of the 2004 Feasibility Study, two approximately 350,000-gallon treated water storage tanks were constructed at the West Point WTP for a total of ±700,000-gallon storage at the plant. Separately, a new ±150,000-gallon water storage tank was also constructed to provide the Bummerville area with adequate fire flows and peak hour flows. No additional treated water storage improvements are proposed in this Water Master Plan

1.2.10 West Point / Wilseyville and Bummerville Distribution System

Based on the findings and recommendations included in the 2004 Feasibility Study, small diameter pipelines located in the West Point and Wilseyville distribution systems were replaced with minimum 6-inch diameter mains adequate to supply maximum day plus fire flows and adequate to meet peak hour demands. Additional water distribution improvements are proposed in this Supplemental Water Master Plan to serve the Bummerville service area.

2.0 BEAR CREEK STORAGE, SUPPLY AND CONTROL IMPROVEMENTS

In this section of the 2018 Supplemental Water System Master Plan, alternative and recommended modifications and reservoir expansions to improve the capacity and reliability of the Bear Creek supply are discussed. These include improvements to the Wilson Dam, metering of Bear Creek flows delivered through the Bear Creek Diversion Pipeline and capacity and water quality improvements at the West Point Regulating Reservoir.

2.1 Wilson Dam

An aerial photo of Wilson Dam is shown in **Figure 12**. The top of the Wilson Dam Embankment is constructed at approximately elevation 3,615'. The toe of slope on the downstream side of the reservoir embankment is approximately elevation 3,583'. **Figure 13** presents approximate cross sections of ground elevations in the Wilson Reservoir area. Based on these cross sections the existing capacity of the Wilson Reservoir is approximately 25 AF when the water surface is allowed to reach approximately elevation 3,613'. As previously discussed in Section 1.0 of this Supplemental Master Plan Report, the District has lowered the operating level of the Reservoir due to concerns regarding seepage and stability.

A subsurface investigation of the Wilson Dam embankment was conducted by Woodward-Clyde-Sherard Associates (WCSA) in 1963. Based on these subsurface tests the WCSA Engineering Geologist concluded that the embankment was constructed over native material and not constructed using engineered fill material. WCSA concluded that the dam was constructed using decomposed granite and placed over the native material without removing (or conditioning) the natural topsoil. Highly weathered rock and soil and other "unsuitable and potentially permeable materials" were used to construct the dam. WCSA determined that seepage was not, however, occurring through the reservoir embankment but rather through a zone composed of open joints and fractures in the granite bedrock beneath the dam embankment. WCSA further concluded that the seepage which was occurring through the underlying zones could be controlled by chemical grouting to seal the fractured zones.

For the purpose of this Supplement to the Master Plan, KASL obtained a proposal for updating the 1963 geotechnical explorations conducted at Wilson Dam. Given the proposed cost of this updated investigation the District decided not to pursue additional geotechnical testing or findings at this time.

The Wilson Dam outlet works are in disrepair and water flows through the impoundment to the creek below. In addition, a sinkhole developed near the upstream slope crest indicated possible "piping' of the embankment soil in the past. The District "patched" the sinkhole area on the upstream face in early 2018 as part of routine maintenance activities; the sinkhole perimeter was excavated to remove unstable material and wood debris and then backfilled with Class 2 aggregate base to the original grade along the face of the dam. The sinkhole may be related to the damaged pipeline and indicative of a long-term issue that needs to be resolved.

EXISTING RESERVOIR CAPACITY AT WILSON DAM
25 AC-FT

WEST POINT

ELEVATION FT	CUMULATIVE VOLUME AC-FT	SURFACE AREA SF
3602	1.5	66,430
3603	3.0	70,800
3604	4.7	75,300
3605	6.5	79,900
3606	8.4	84,700
3607	10.4	89,500
3608	12.5	94,500
3609	14.9	106,800
3610	17.4	112,100
3611	20.0	117,350
3612	22.8	122,700
3613	25.7	129,000

ELEVATIONS ARE APPROXIMATE

N

0' 50' 100'

SCALE 1"=100' (17"x11")

CONSULTING KASL ENGINEERS

FIGURE 12

FILE: S:\2517-01 West Point, Mokelumne River\Study A - West Point Water System\Master Plan\Figure\FIG_12 EXISTING RESERVOIR CAPACITY AT WILSON DAM.dgn
DATE: 10/17/2018
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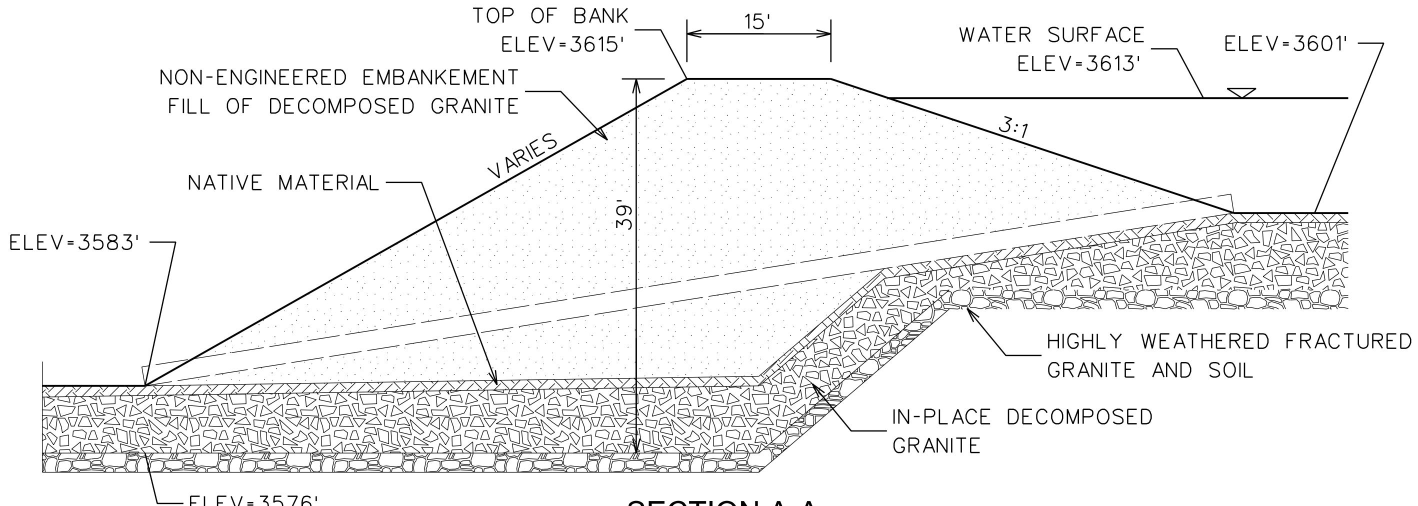
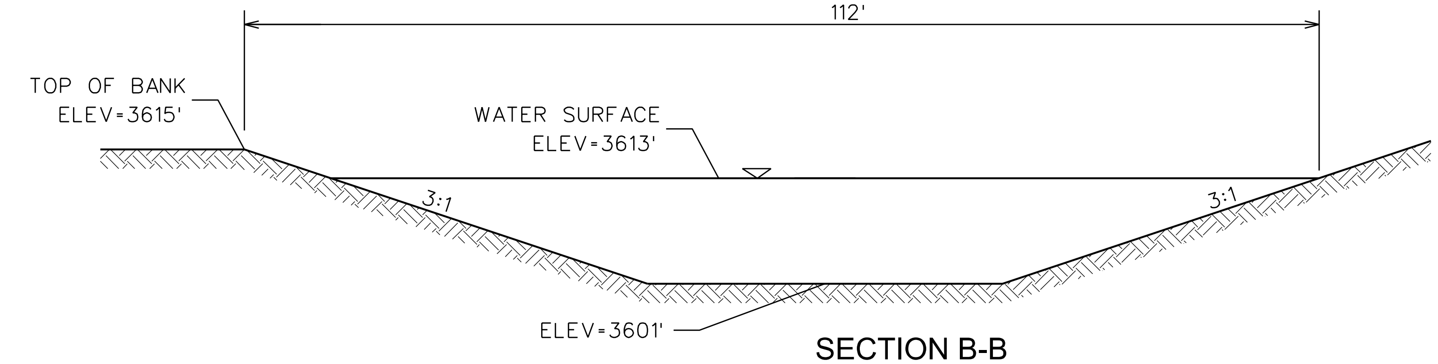


SECTION A-A



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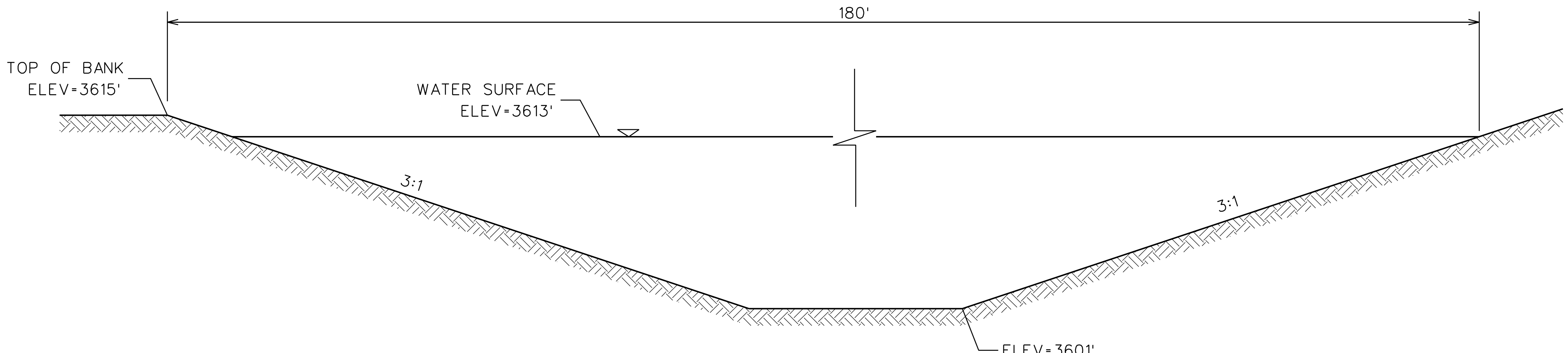

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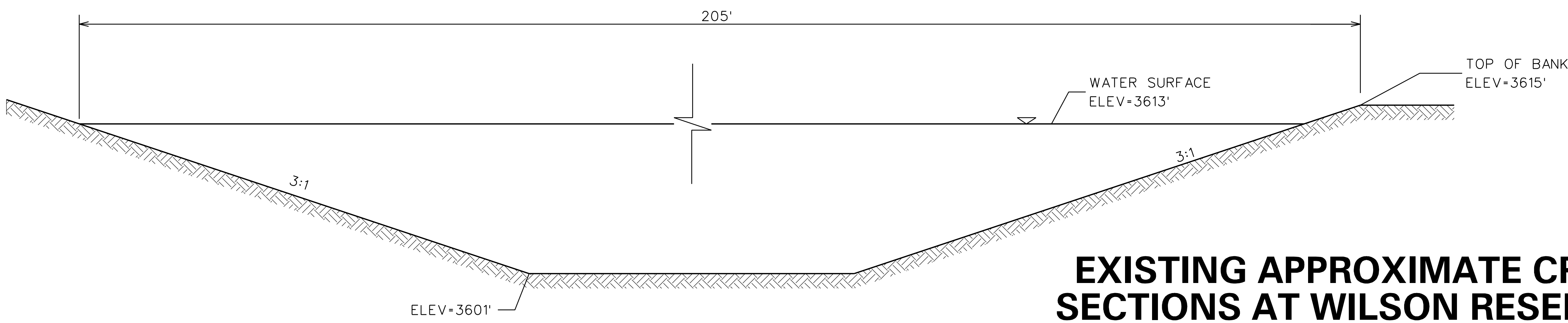

SECTION D-D

CONSULTING
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EXISTING APPROXIMATE CROSS SECTIONS AT WILSON RESERVOIR

WEST POINT

FIGURE 13

FILE: S:\2517-01 West Point. Mokelumne River\Study A - West Point Water System\Master Plan\Figure\FIG_13 EXISTING APPROXIMATE CROSS SECTIONS AT WILSON RESERVOIR.dgn
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2.1.1 Reconstruct Wilson Dam to Restore 25 AF Capacity

To address the seepage through the material beneath the embankment, correct the existing damaged outlet pipe and reconstruct the embankment with engineered fill, it is recommended that the existing embankment material, spillway, outlet pipe and outlet pipe controls be removed and replaced. The embankment area must be cleared, scarified and compacted. During reconstruction, a temporary (piped) diversion of Bear Creek will be required. To correct the seepage though the underlying fractured granite consistent with recommendations included in the WCSA report, an impervious grout "curtain," 150 feet long, 6 feet deep and approximately 3 feet wide is proposed. Updated geotechnical investigations may determine other methods that are more suitable and more acceptable to the Regional Water Quality Control Board or to the Department of Fish and Wildlife. Estimated costs to restore Wilson Reservoir to 25 AF capacity are presented in **Table 1.**

2.1.2 Expand Wilson Reservoir Capacity

In the Mokelumne River Long-Term Water Needs Study the benefits of increasing the capacity of Wilson Reservoir to 50 AF to meet the future water supply needs of the West Point community are discussed. Based on preliminary analysis of surface area and the estimated cross-sectional geometry of the existing reservoir, increasing the capacity to 50 AF would require raising the dam embankment and emergency spillway elevations by approximately 7 feet. As shown in **Figure 14**, raising the embankment and maximum operating level by 7 feet will likely encroach onto Winton Road.

Expansion of the Reservoir "footprint" would require a revised operating agreement with Sierra Pacific Industries as it would encroach on their adjacent properties. Increasing the capacity of the Reservoir would also require an updated permit from the Division of Safety of Dams and permitting from the California Department of Fish and Wildlife, Regional Water Quality Control Board and U.S. Corps of Engineers.

As previously discussed for the 25 AF capacity alternative, increasing the capacity of Wilson Reservoir to 40 AF or 50 AF would require removal of the existing embankment, drain pipe and spillway, clearing, scarification, and compaction of the expanded dam embankment area, temporary rerouting of Bear Creek during construction, construction of a grouted curtain to control seepage through the underlying fractured rock, construction of the new embankment with engineered fill, replacement of the reservoir outlet pipe together with new gate controls and trash rack and construction of a new concrete spillway. Increasing the capacity to 50 AF would require reconstruction (raising) a portion of Winton Road along the north side of the expanded reservoir. Estimated costs for the 50 AF reservoir alternative are presented in **Table 2**. After discovering that a 50 AF expansion requires raising Winton Road, a second evaluation was done to determine the maximum capacity achievable without the need for raising Winton Road. The evaluation resulted in a maximum capacity of 40 AF. Expansion of Wilson Reservoir capacity to 40 AF is shown in **Figure 14A**. Estimated costs for the 40 AF reservoir expansion alternative are presented in **Table 3**. These costs do not include purchase of the expanded reservoir site or the cost of an expanded operating agreement with SPI. These costs are unknown at this time.

Table 1. Estimated Costs to Restore Wilson Reservoir to 25 AF Capacity

ITEM NO.	DESCRIPTION	ESTIMATED UNIT COST	UNIT	ESTIMATED QUANTITY	ESTIMATED COST
1	Mobilization,(1) Clearing and Grubbing	$ 75,000.00	LS	1	$ 75,000
2	Remove Existing 24" Drain	$ 50.00	LF	125	$ 6,250
3	Excavate Existing Embankment Material	$ 6.50	CY	11000	$ 71,500
4	Scarify and Compact Embankment Site	$ 40,000.00	LS	1	$ 40,000
5	Place and Compact Engineered Fill Material(2)	$ 10.00	CY	14300	$ 143,000
6	Install 24" Concrete Encased Drain Pipe	$ 250.00	LF	125	$ 31,250
7	Install 24" Diameter Drain Gate, Controls and Trash Rack	$ 40,000.00	LS	1	$ 40,000
8	Install Grout Barrier (150' x 6' x 3')	$ 3,000.00	CY	100	$ 300,000
9	Construct Concrete Lined Spillway	$ 75,000.00	LS	1	$ 75,000
10	Provide Temporary Diversion of Bear Creek During Construction	$ 25,000.00	LS	1	$ 25,000
				Estimated Construction Cost	$ 807,000
				20% Construction Cost Contingencies	$ 161,400
				Planning & Engineering Design (10% of Construction)	$ 80,700
				Environmental Mitigation and Permitting (10% of Construction)	$ 80,700
				Construction Administration (8% of Construction)	$ 64,600
				Administrative and Legal Costs (5% of Construction)	$ 40,350
				Total Estimated Costs	$ 1,234,750

(1) Mobilization Estimated at ±5% of Estimated Construction Cost.

(2) Assumes ±30% Shrinkage and that Suitable Onsite Sources of Fill Material are Available.

EXPAND WILSON RESERVOIR CAPACITY TO 50 AC-FT (RAISE BY 7 FT)

WEST POINT

ELEVATION FT	CUMULATIVE VOLUME AC-FT	SURFACE AREA SF
3602	1.5	66,430
3603	3.0	70,800
3604	4.7	75,300
3605	6.5	79,900
3606	8.4	84,700
3607	10.4	89,500
3608	12.5	94,500
3609	14.9	106,800
3610	17.4	112,100
3611	20.0	117,350
3612	22.8	122,700
3613	25.7	129,000
3615	31.8	140,400
3616	35.1	146,100
3618	42.1	157,800
3620	50.0	169,700

ELEVATIONS ARE APPROXIMATE

N

0' 50' 100'

SCALE 1"=100' (17"x11")

FIGURE 14

CONSULTING KASL ENGINEERS

FILE: S:\2517-01 West Point, Mokelumne River\Study A - West Point Water System\Master Plan\Figure\FIG_14 EXPAND WILSON RESERVOIR TO 50 AC FT.dgn
DATE: 10/17/2018
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Table 2. Estimated Costs for Wilson Reservoir Expansion Alternative

ITEM NO.	DESCRIPTION	ESTIMATED UNIT COST	UNIT	ESTIMATED QUANTITY	ESTIMATED COST
1	Mobilization,(1) Clearing and Grubbing	$ 85,000.00	LS	1	$ 85,000
2	Remove Existing 24" Drain	$ 50.00	LF	125	$ 6,250
3	Remove Trees	$ 1,000.00	EA	35	$ 35,000
4	Excavate Existing Embankment Material	$ 6.50	CY	11000	$ 71,500
5	Additional Project Area Excavation	$ 10.00	CY	4000	$ 40,000
6	Scarify and Compact Embankment Site	$ 50,000.00	LS	1	$ 50,000
7	Place and Compact Engineered Fill Material (2)	$ 10.00	CY	20000	$ 200,000
8	Install 24" Concrete Encased Drain Pipe	$ 250.00	LF	175	$ 43,750
9	Install 24" Diameter Drain Gate, Controls and Trash Rack	$ 50,000.00	LS	1	$ 50,000
10	Install Grout Barrier (200' x 6' x 3') During Construction	$ 3,000.00	CY	135	$ 405,000
11	Construct Concrete Lined Spillway	$ 90,000.00	LS	1	$ 90,000
12	Provide Temporary Diversion of Bear Creek During Construction	$ 25,000.00	LS	1	$ 25,000
13	Reconstruct Winton Road	$ 325.00	FT	880	$ 286,000
				Estimated Construction Cost	$ 1,387,500
				20% Construction Cost Contingencies	$ 277,500
				Planning & Engineering Design (10% of Construction)	$ 138,750
				Environmental Mitigation and Permitting (10% of Construction)	$ 138,750
				Construction Administration (8% of Construction)	$ 111,000
				Administrative and Legal Costs (6% of Construction)	$ 83,250
				Total Estimated Costs	$ 2,136,750.00

(1) Mobilization Estimated at 5% of Estimated Construction Cost.

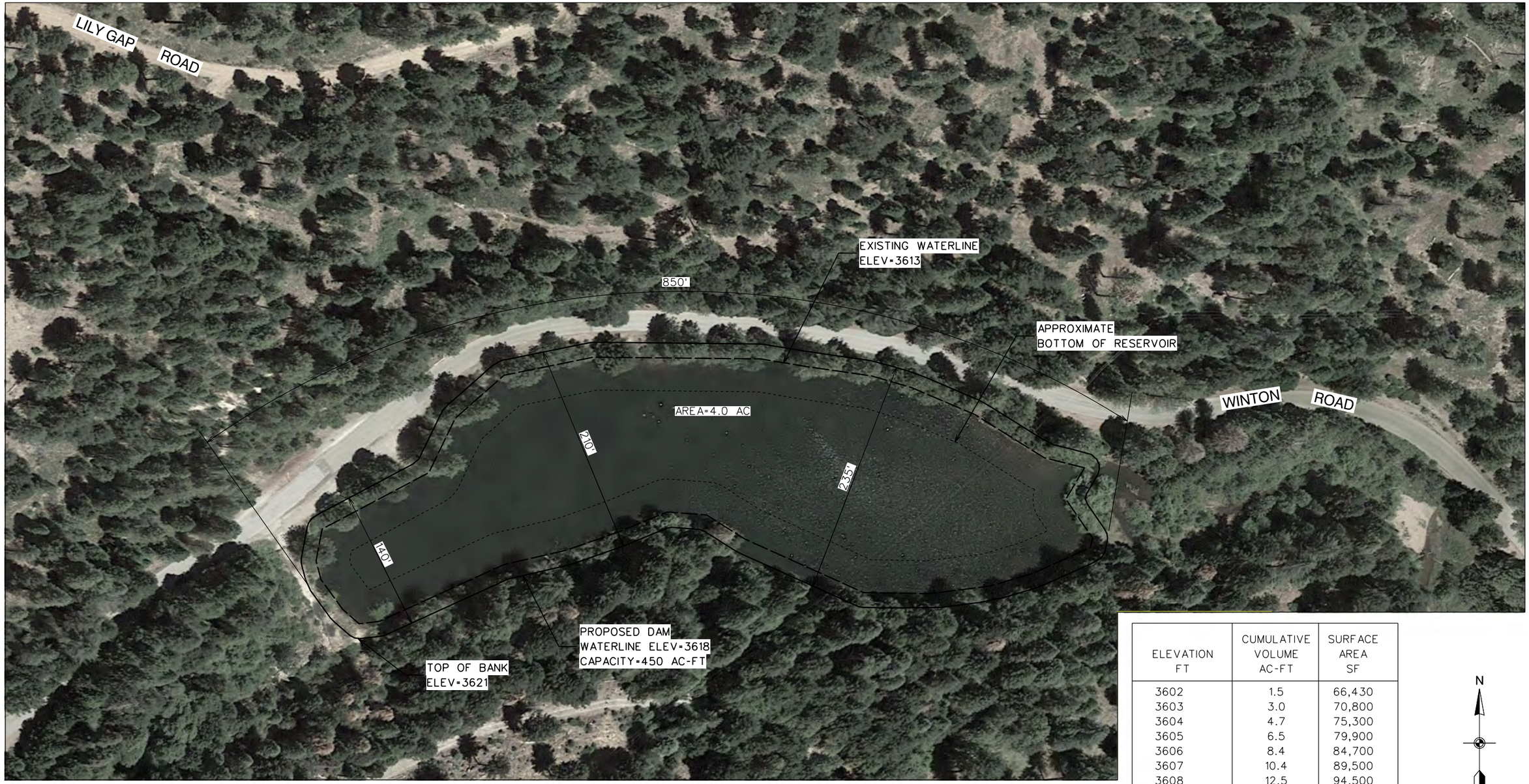
(2) Assumes ±30% Shrinkage and that Suitable Onsite Sources of Fill Material are Available.

Table 3. Engineer's Estimate of Quantities and Costs - Study A West Point Water System Master Plan Wilson Dam Reconstruct to 40 AF Capacity

ITEM NO.	DESCRIPTION	ESTIMATED UNIT COST	UNIT	ESTIMATED QUANTITY	ESTIMATED COST
1	Mobilization,(1) Clearing and Grubbing	$ 85,000.00	LS	1	$ 85,000
2	Remove Existing 24" Drain	$ 50.00	LF	125	$ 6,250
3	Remove Trees	$ 1,000.00	EA	30	$ 30,000
4	Excavate Existing Embankment Material	$ 6.50	CY	850	$ 5,525
5	Additional Project Area Excavation	$ 10.00	CY	3200	$ 32,000
6	Scarify and Compact Embankment Site	$ 50,000.00	LS	1	$ 50,000
7	Place and Compact Engineered Fill Material (2)	$ 10.00	CY	16000	$ 160,000
8	Install 24" Concrete Encased Drain Pipe	$ 250.00	LF	175	$ 43,750
9	Install 24" Diameter Drain Gate, Controls and Trash Rack	$ 50,000.00	LS	1	$ 50,000
10	Install Grout Barrier (200' x 6' x 3') During Construction	$ 3,000.00	CY	135	$ 405,000
11	Construct Concrete Lined Spillway	$ 90,000.00	LS	1	$ 90,000
12	Provide Temporary Diversion of Bear Creek During Construction	$ 25,000.00	LS	1	$ 25,000
				Estimated Construction Cost	$ 982,525
				20% Construction Cost Contingencies	$ 196,505
				Planning & Engineering Design (10% of Construction)	$ 98,253
				Environmental Mitigation and Permitting (10% of Construction)	$ 98,253
				Construction Administration (8% of Construction)	$ 111,000
				Administrative and Legal Costs (6% of Construction)	$ 58,952
				Total Estimated Costs	$ 1,545,486.50

(1) Mobilization Estimated at 5% of Estimated Construction Cost.

(2) Assumes ±30% Shrinkage and that Suitable Onsite Sources of Fill Material are Available.



EXPAND WILSON RESERVOIR CAPACITY TO 40 AC-FT (RAISE BY 5 FT)

WEST POINT

ELEVATION FT	CUMULATIVE VOLUME AC-FT	SURFACE AREA SF
3602	1.5	66,430
3603	3.0	70,800
3604	4.7	75,300
3605	6.5	79,900
3606	8.4	84,700
3607	10.4	89,500
3608	12.5	94,500
3609	14.9	106,800
3610	17.4	112,100
3611	20.0	117,350
3612	22.8	122,700
3613	25.7	129,000
3615	31.8	140,400
3616	35.1	146,100
3618	40.0	155,000

ELEVATIONS ARE APPROXIMATE

N

0' 50' 100'

SCALE 1"=100' (17"x11")

FIGURE 14A

CONSULTING KASL ENGINEERS

FILE: S:\2517-01 West Point, Mokelumne River\Study A - West Point Water System\Master Plan\Figure\FIG_14 A EXPAND WILSON RESERVOIR TO 40 AC FT.dgn
DATE: 10/17/2018
PLOT TABLE: 2517-01 West Point Mokelumne River\Study A - West Point Water System\Water Plan\Figure\Connection\Fig-x.tbl

2.2 The Bear River Diversion Pipeline

As noted in Section 1.0 of this Supplemental Master Plan Report, the Bear River Diversion Pipeline has been recently replaced with a 16-inch diameter HDPE pipe. The new pipeline is adequate to deliver the 4 cfs allowed by the District's current water rights permit. No additional improvements to the pipeline are proposed. The reinforced concrete Bear River Diversion Facilities adequately provide diversion of up to 4 cfs of Bear River flow. The diversion structure inlet seasonally fills with sand and sediment and needs to be maintained. No improvements to the diversion structure inlet are proposed at this time except for the reinstallation of stream flow gaging equipment at the existing Parshall Flume. Ongoing cleaning of the diversion structure inlet is proposed. It is recommended that at, a minimum, the existing diversion structure inlet be cleaned of sediment and debris each Spring. After flow monitoring facilities are installed, it is recommended that reduced flow through the Bear River Diversion structure could indicate blockage of the diversion structure inlet pipe and, therefore, warrant maintenance. The District previously installed a Parshall type flow metering flume as part of the Bear Creek Diversion. After vandalism and theft occurred, the District has not replaced the critical flow measurement and flow recording equipment. During a site visit to the Bear Creek Diversion, CCWD suggested re-establishing the existing flow gaging equipment to comply with the requirements of S.B. 88 and to support operating staff to coordinate the Bear Creek Diversions, Regulator Reservoir Operations and Middle Fork Pump Stations operations.

The District has already entered in to a contract to install a float tape with WaterLOG H-3301/11/42 shaft encoder, WaterLOG Storm 3 data logger, a new enamel staff gage and a satellite radio. This equipment will be housed in a powder coated steel gage house at the original Parshall Flume gaging station. Data will ultimately be transmitted through the satellite system to a password protected website so that operators can log in to the website to check the status of the diversion.

2.3 West Point Regulating Reservoir

The Calaveras County Mokelumne River Long-Term Water Needs Study includes recommendations to increase the capacity of the West Point Regulating Reservoir to 150 AF. The current capacity with the placement of two, 12-inch-high stop logs at the spillway, is approximately 52.7 AF.

The existing top of the Regulating Reservoir embankment is constructed with maximum water surface elevation (with two stop logs) of 2,987.5. The top of embankment elevation is 2,990.9.

The initial evaluation for increasing the capacity of the Regulating Reservoir to ±150 AF is shown in **Figure 15.** A top of berm embankment elevation of 3,005.0 is suggested together with a maximum water surface elevation of 3,001.5. As noted in Figure 15, this plan results in the top of the reservoir aligned too close to the existing CCWD property limits at the northwest and southwest limits of the expanded reservoir.

To more reasonably increase the capacity, the footprint of the reservoir needs to be expanded with additional excavation while maintaining the limits of the reservoir within the CCWD property lines.

The first revised plan for expanding the capacity of the Regulating Reservoir is shown in **Figure 16**. With this plan, the bottom of the reservoir is excavated and expanded to the northeast. The open channel outfall structure is retained with a new spillway constructed at a high water elevation of 2,999. A top of embankment elevation of 3,003 is proposed. This alternative would include construction of retaining walls

up to 12 feet high to maintain the toe of the embankment within the CCWD pipeline limits. Typical sections along the spillway and at critical embankment locations are presented in **Figure 17**. The expanded reservoir plan and sections presented in Figures 16 and 17 include maintaining a 15-foot-wide top embankment width, a 14-foot-wide spillway outfall with open channel section, similar to existing, and a minimum 12-foot-wide access roadway constructed around the outside of the embankment toe, again, similar to existing conditions.

The initial revised plan was reviewed with CCWD Engineering Department staff. Based on their recommendations, the spillway open channel outfall section was replaced with a 3-foot-deep by 10-foot-wide box culvert. The footprint of the reservoir was further expanded to the southeast while keeping the facility within the limits of the CCWD property. The second, revised plan also results in an increased Regulating Reservoir capacity of 150 AF. This option is shown in **Figure 18**. As before, the embankment elevation is proposed at 3003 with a maximum water surface elevation of 2,999. This revised plan, which significantly reduces the need for retaining walls, was found to be more acceptable to CCWD Engineering Department staff. A cost estimate for the second revised plan for increasing the capacity at the West Point Regulating Reservoir to 150 AF is presented in **Table 4.**

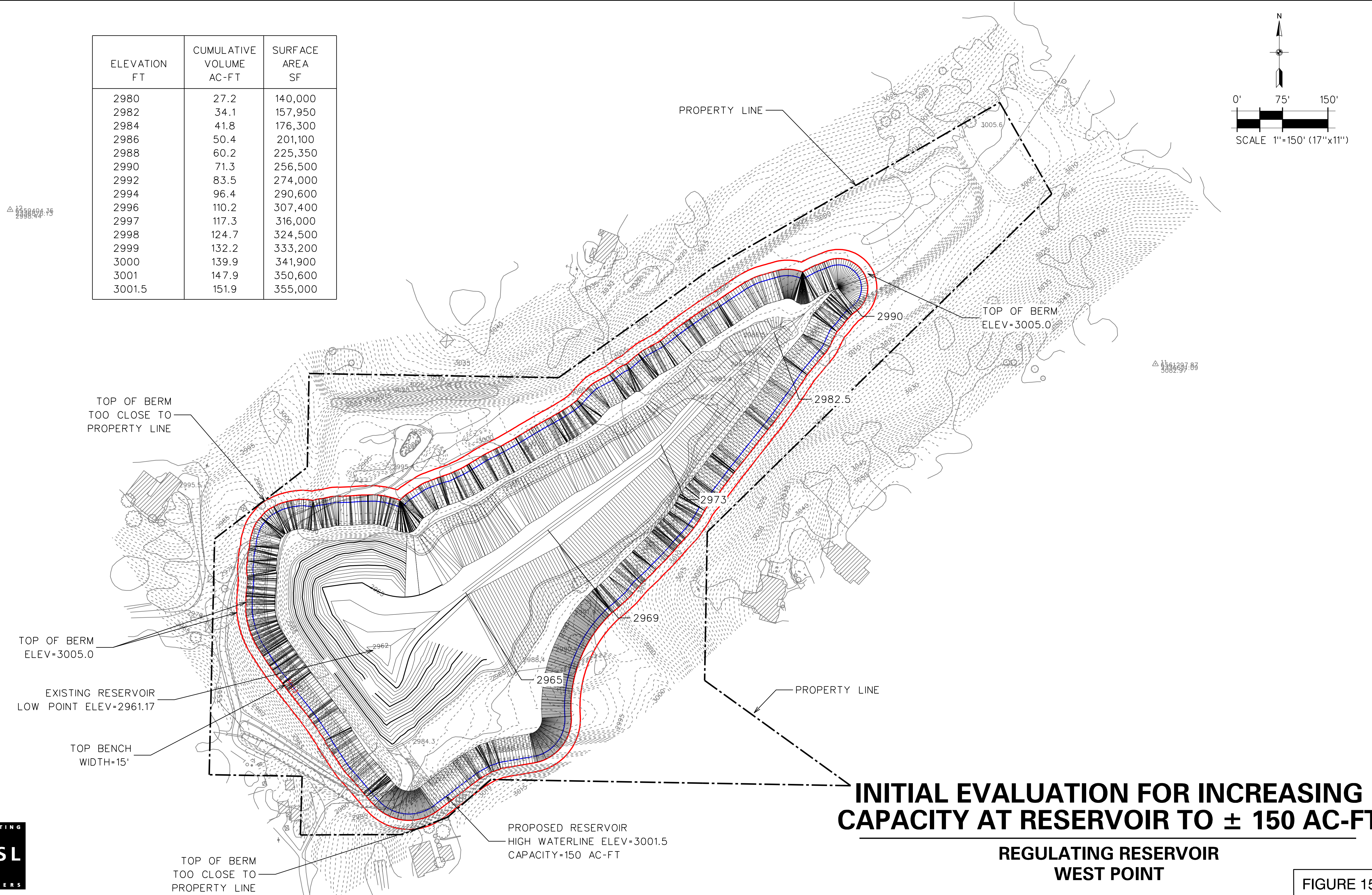
The Hydraulic Grade Line developed with the Bear Creek Raw Water Pipeline Replacement Project was evaluated with respect to the increased Regulating Reservoir capacity of 150 AF and increased maximum water surface elevation of 2999. After verifying that the Bear Creek Pipeline Plans prepared for the District in 2004 and the topographic surveys conducted for this Supplemental Master Plan use on the same vertical datum, it was determined that even with the increase in the maximum operating level of the Reservoir to elevation 2999, the Bear Creek Pipeline would still deliver water from the Bear Creek Diversion to the West Point Regulating Reservoir by gravity flow.

2.3.1 Regulating Reservoir Outlet Pipe Modifications

The existing Regulating Reservoir outlet pipe is located at or near the reservoir low point. The District has placed a surface aerator near the outlet pipe location to improve dissolved oxygen levels. There is currently no screening of the outlet, which presents ongoing concerns with the potential for sediment and debris to enter the Regulating Reservoir outlet pipe and ultimately to the headworks of the West Point WTP.

Operational flexibility for treatability of source water would be improved with modification of the existing outlet with a floating screen. This would also reduce risk associated with large sediment and debris entering the headworks of the West Point WTP. A sample design (City of Plymouth Treated Effluent Reservoir) is presented in **Figure 19** and **Figure 20.** With the screened floating outlet, the existing bottom outlet piping is retained and remains functional if the reservoir needs to be drawn down to minimum elevations quickly in an emergency. By floating the reservoir outlet pipe near the surface, water with higher levels of dissolved oxygen and lower levels of total solids would enter the West Point WTP. The estimated cost of modifying the existing outlet with a floating screened outlet is approximately $100,000 based on the actual cost experience at Plymouth. The Plymouth installation was approved by DSOD. An itemized cost estimate of the suggested floating, screened, reservoir outlet improvements is presented in **Table 5.**

ELEVATION FT	CUMULATIVE VOLUME AC-FT	SURFACE AREA SF
2980	27.2	140,000
2982	34.1	157,950
2984	41.8	176,300
2986	50.4	201,100
2988	60.2	225,350
2990	71.3	256,500
2992	83.5	274,000
2994	96.4	290,600
2996	110.2	307,400
2997	117.3	316,000
2998	124.7	324,500
2999	132.2	333,200
3000	139.9	341,900
3001	147.9	350,600
3001.5	151.9	355,000



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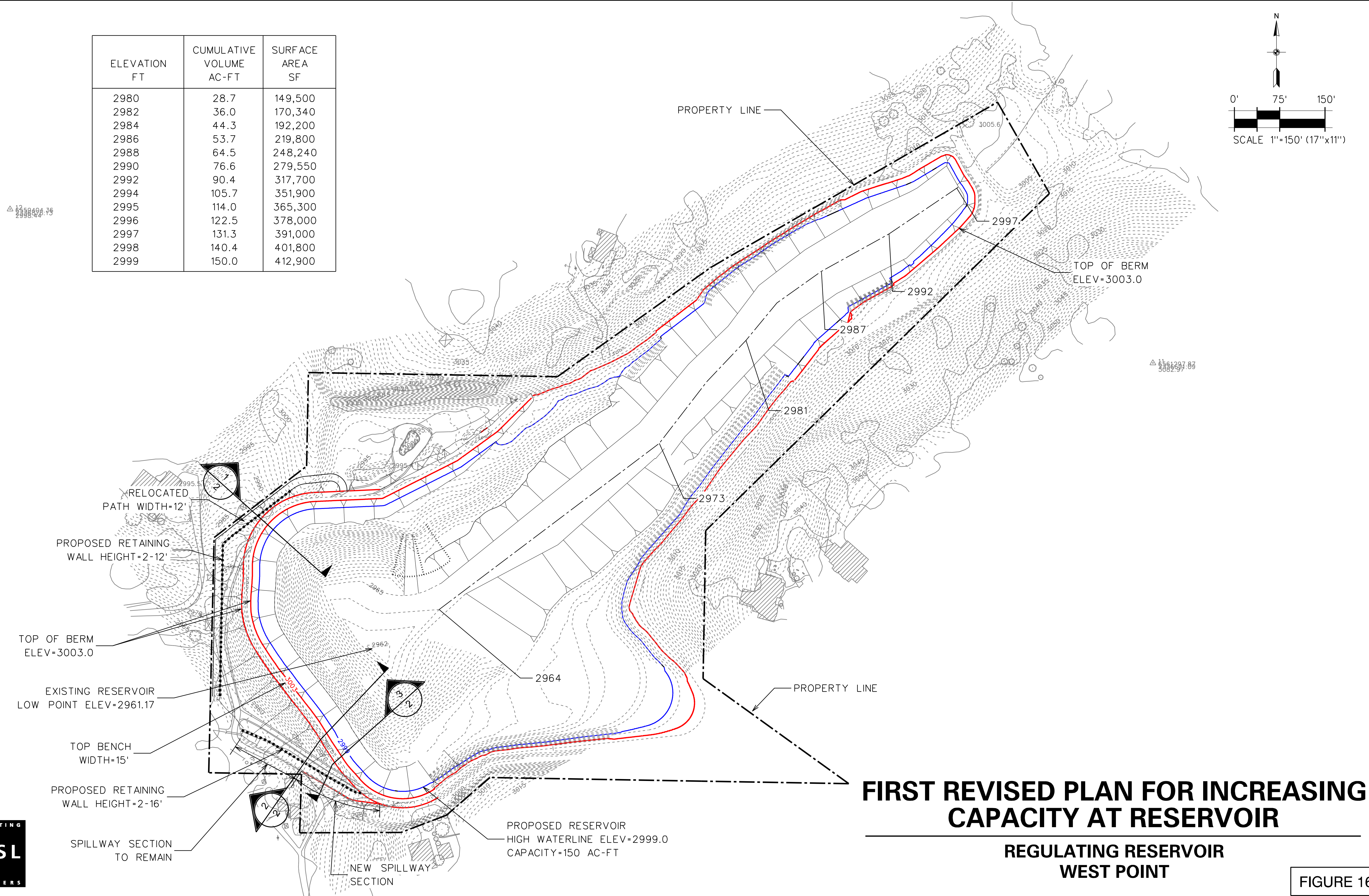
INITIAL EVALUATION FOR INCREASING CAPACITY AT RESERVOIR TO ± 150 AC-FT

REGULATING RESERVOIR
WEST POINT

FIGURE 15

ELEVATION FT	CUMULATIVE VOLUME AC-FT	SURFACE AREA SF
2980	28.7	149,500
2982	36.0	170,340
2984	44.3	192,200
2986	53.7	219,800
2988	64.5	248,240
2990	76.6	279,550
2992	90.4	317,700
2994	105.7	351,900
2995	114.0	365,300
2996	122.5	378,000
2997	131.3	391,000
2998	140.4	401,800
2999	150.0	412,900

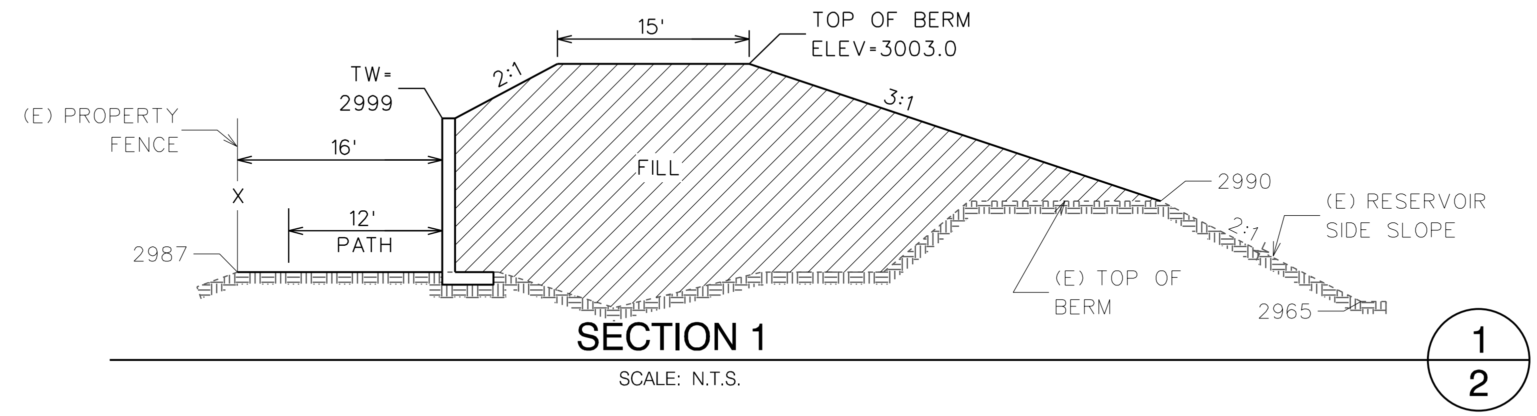


FIRST REVISED PLAN FOR INCREASING CAPACITY AT RESERVOIR

REGULATING RESERVOIR WEST POINT

FIGURE 16

CONSULTING KASL ENGINEERS



SECTION 1

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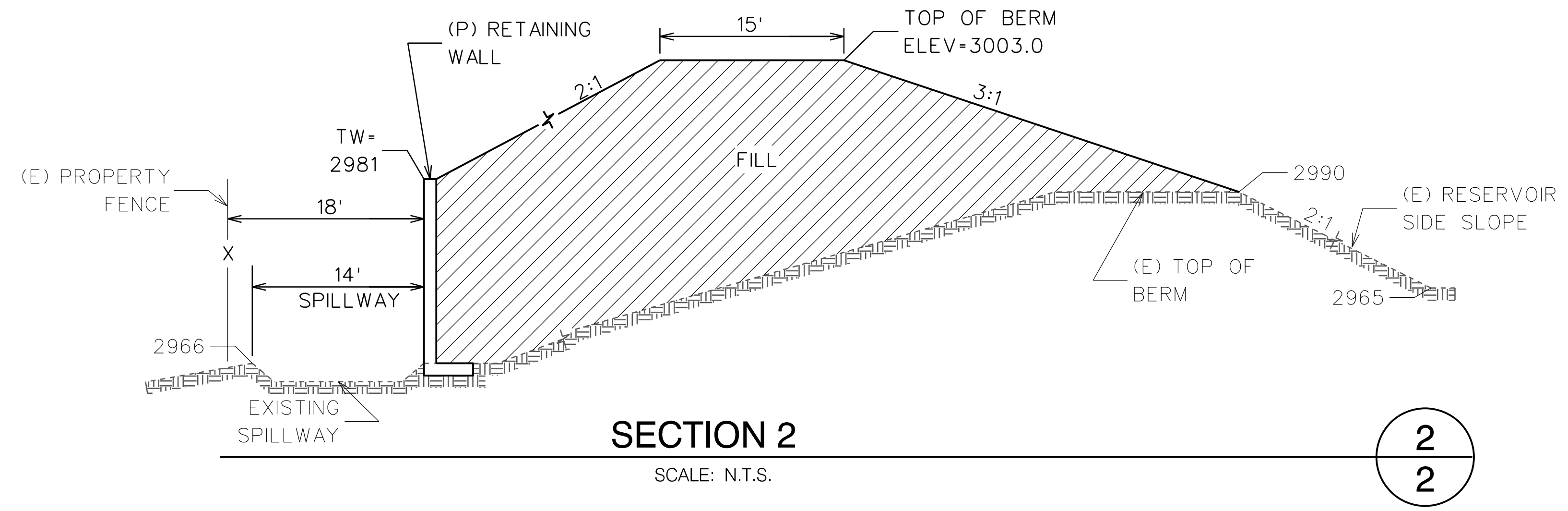

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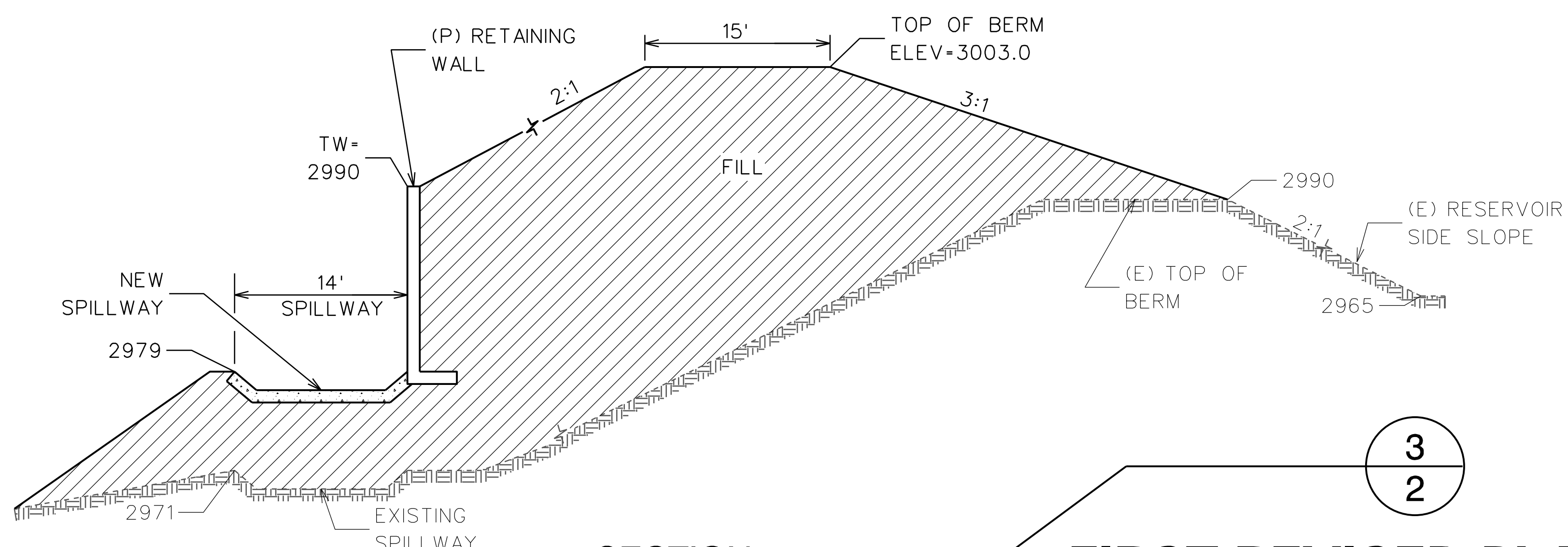

SECTION 3

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FIRST REVISED PLAN FOR INCREASING CAPACITY AT RESERVOIR CRITICAL SECTIONS

REGULATING RESERVOIR
WEST POINT

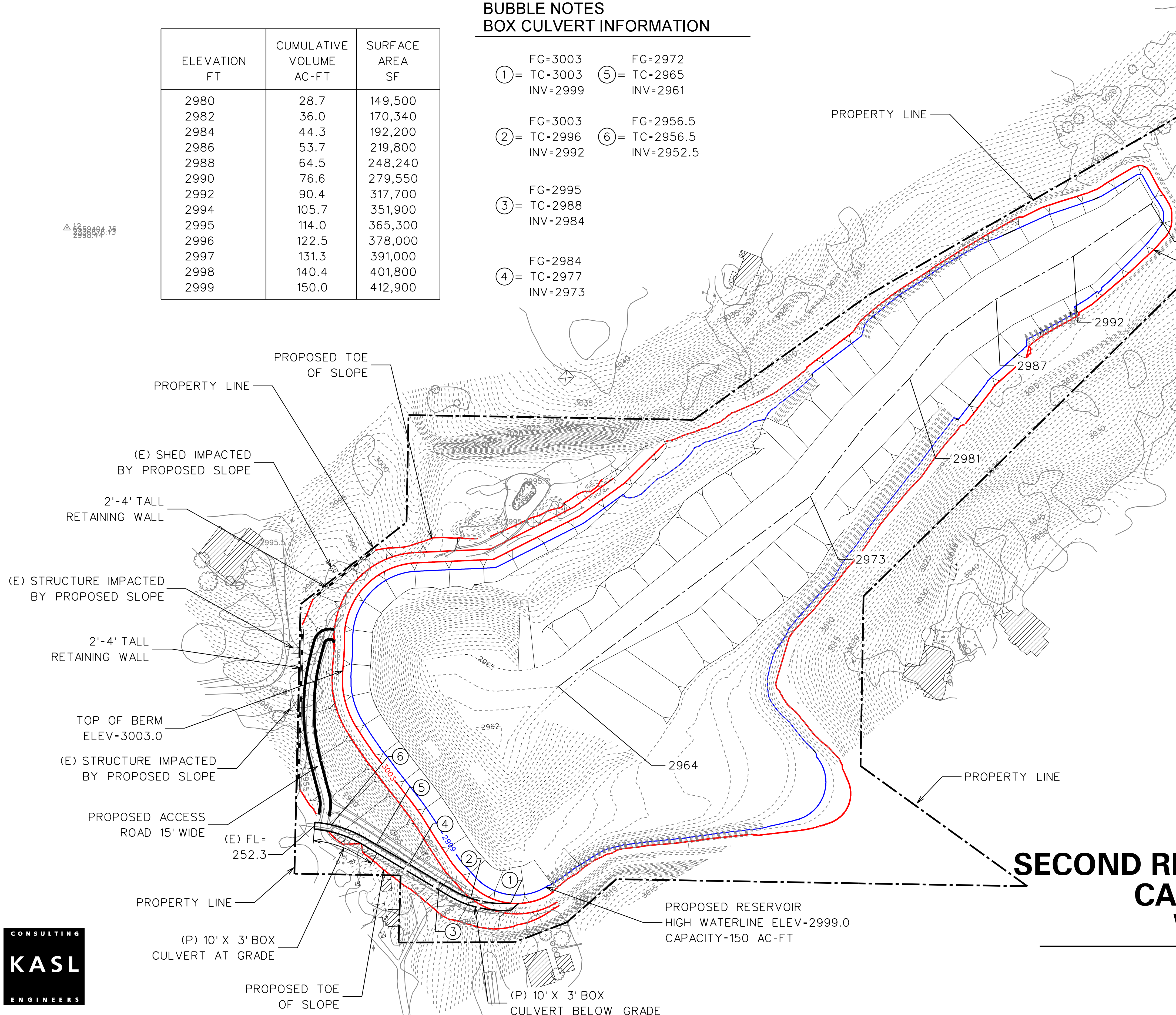
FIGURE 17

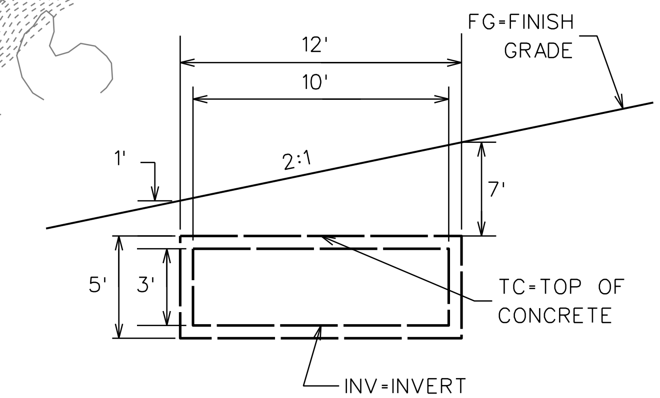
CONSULTING
KASL
ENGINEERS

ELEVATION FT	CUMULATIVE VOLUME AC-FT	SURFACE AREA SF
2980	28.7	149,500
2982	36.0	170,340
2984	44.3	192,200
2986	53.7	219,800
2988	64.5	248,240
2990	76.6	279,550
2992	90.4	317,700
2994	105.7	351,900
2995	114.0	365,300
2996	122.5	378,000
2997	131.3	391,000
2998	140.4	401,800
2999	150.0	412,900

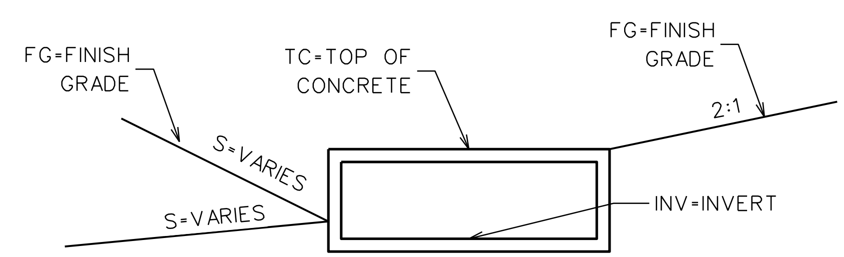
BUBBLE NOTES
BOX CULVERT INFORMATION

(1) = FG=3003, TC=3003, INV=2999
(2) = FG=3003, TC=2996, INV=2992
(3) = FG=2995, TC=2988, INV=2984
(4) = FG=2984, TC=2977, INV=2973
(5) = FG=2972, TC=2965, INV=2961
(6) = FG=2956.5, TC=2956.5, INV=2952.5





3' HIGH X 10' WIDE BOX CULVERT (BELOW GRADE CONDITION)



3' HIGH X 10' WIDE BOX CULVERT (AT GRADE CONDITION)

SECOND REVISED PLAN FOR INCREASING CAPACITY AT RESERVOIR WITH BOX CULVERT

REGULATING RESERVOIR WEST POINT

FIGURE 18

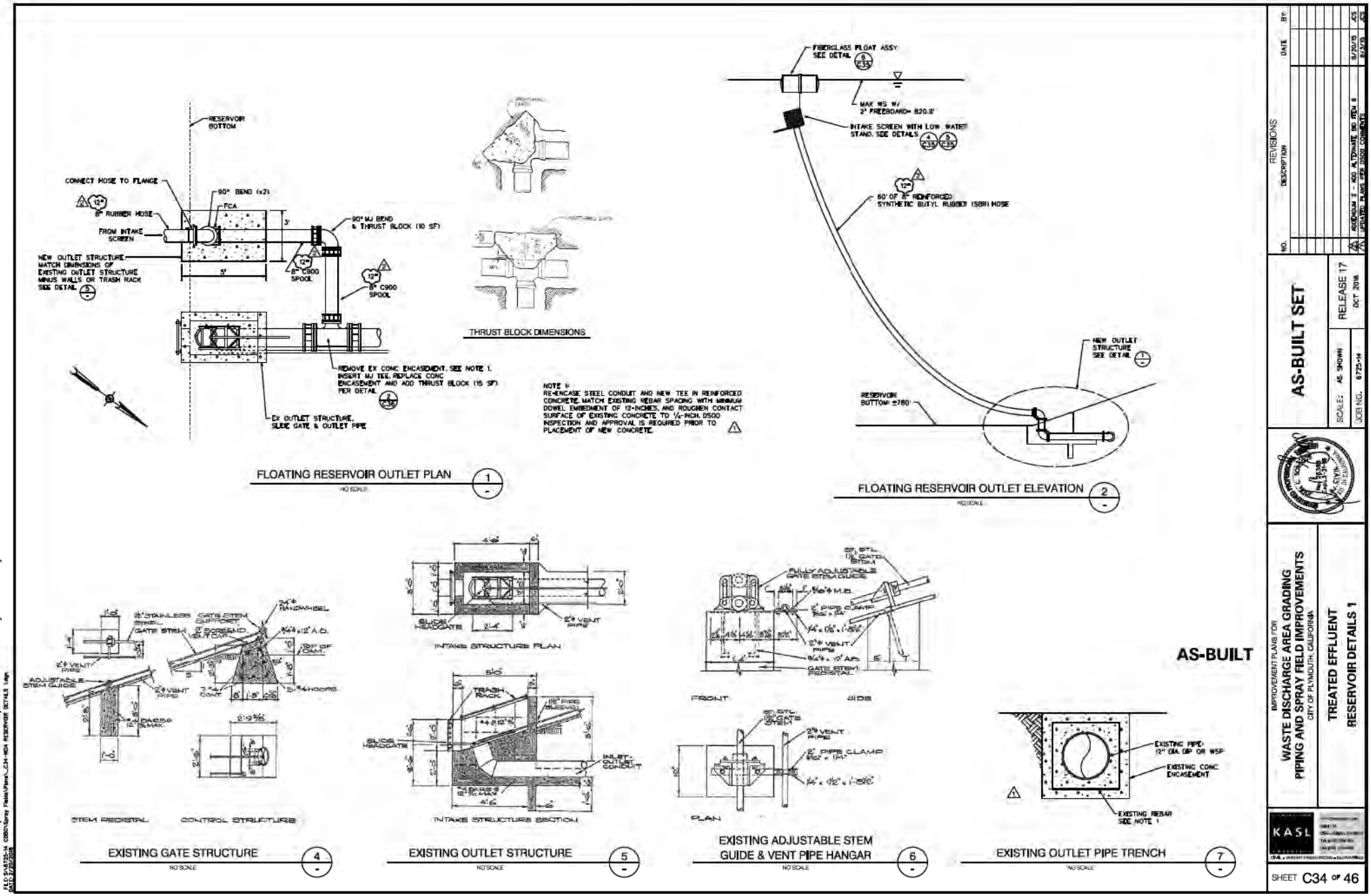
CONSULTING KASL ENGINEERS

Table 4. Cost Estimate for the Second Revised Plan for Increasing the Capacity at the West Point Regulating Reservoir to 150 AF

ITEM NO.	DESCRIPTION	ESTIMATED UNIT COST	UNIT	ESTIMATED QUANTITY	ESTIMATED COST
1	Mobilization,(1) Clearing and Grubbing	$ 85,000.00	LS	1	$ 85,000
2	Remove Existing Structure	$ 2,000.00	EA	3	$ 6,000
3	Remove Existing Fence	$ 10.00	LF	350	$ 3,500
4	Remove Existing Concrete Spillway	$ 250.00	CY	80	$ 20,000
5	Remove Existing 24" CMP	$ 50.00	LF	200	$ 10,000
6	Reservoir and Reservoir Embankment Excavation	$ 6.50	CY	45000	$ 292,500
7	Place and Compact Reservoir Embankment (2)	$ 10.00	CY	60000	$ 600,000
8	Install Erosion Control Netting	$ 2.50	SY	5250	$ 13,125
9	Construct 15' Wide Access Road (Class 2 A.B)	$ 125.00	TONS	145	$ 18,125
10	Construct 10' x 3' Reinforced Concrete Box Culvert	$ 800.00	CY	400	$ 320,000
11	Install Chain Link Fence	$ 40.00	LF	350	$ 14,000
12	Rebuild Structures	$ 10,000.00	EA	3	$ 30,000
13	Construct Perimeter Retaining Walls	$ 100.00	LF	350	$ 35,000
14	Furnish and Install 24" CMP Drain	$ 250.00	LF	300	$ 75,000
15	Furnish and Install Drain Trash Rack and Gate Control	$ 65,000.00	LS	1	$ 65,000
			Estimated Construction Cost		$ 1,587,250
	20% Construction Cost Contingencies				$ 317,450
			Planning & Engineering Design (10% of Construction)		$ 158,725
	Permitting and Environmental Clearance		(7% of Construction)		$ 111,100
			Construction Administration (8% of Construction)		$ 127,000
			Administrative and Legal Costs (4% of Construction)		$ 63,500
			Total Estimated Costs		$ 2,365,025

(1) Estimated at 5% of Construction Cost.

(2) Assumes 30% Shrinkage and that Suitable Onsite Sources of Fill Material are Available.



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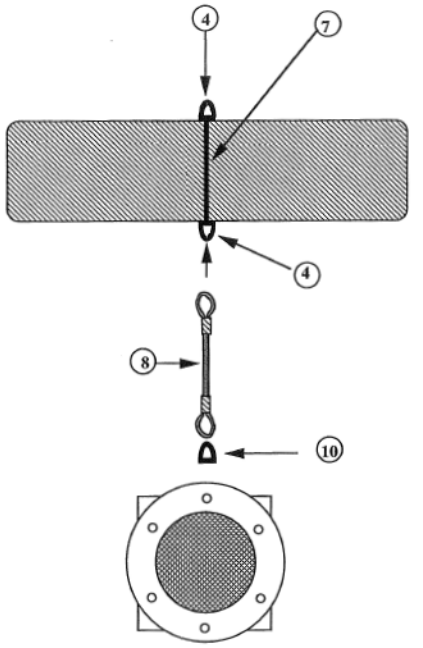
DATE: 3/29/2018

CONSULTING KASL ENGINEERS

Sample Floating, Screened Reservoir Outlet Plan

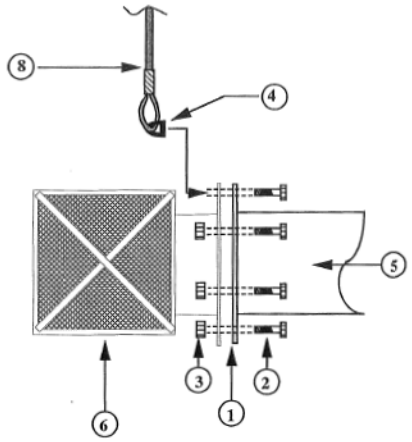
FIGURE 19



Item #	Description
4	Stainless Steel Eye Nut
7	Stainless Steel All Thread
8	Stainless Steel Cable
10	Stainless Steel Eye Nut

FLOAT / INTAKE SCREEN CONNECTION — 4 / -

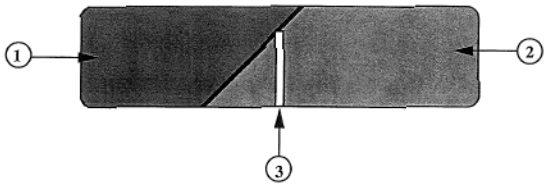
NO SCALE



Item #	Description
1	Flange
2	Stainless Steel Bolt
3	Stainless Steel Nut
4	Stainless Steel Eye Nut
5	SBR Hose
6	Stainless Steel Screen

INTAKE SCREEN DETAIL — 5 / -

NO SCALE



Item #	Description
1	Fiberglass Cover
2	Foam Insert
3	PVC Sleeve

FIBERGLASS FLOAT ASSEMBLY — 6 / -

NO SCALE

FILE: S:\2517-01 West Point, Mokelumne River\Study A - West Point Water System\Master Plan\Figure\FIG_20.dgn
DATE: 3/29/2018

CONSULTING KASL ENGINEERS

Floating Screened Reservoir Outlet Assembly Details

FIGURE 20

Table 5. Cost Estimate of the Suggested Floating, Screened, Reservoir Outlet Improvements to Regulating Reservoir

ITEM NO.	DESCRIPTION	ESTIMATED UNIT COST	UNIT	ESTIMATED QUANTITY	ESTIMATED COST
1	Modify Existing Outlet Structure; Piping, Fittings, Concrete Foundation(1)	$ 25,000.00	LS	1	$ 25,000
2	Furnish & Install HDPE Outlet Piping	$ 250.00	LF	60	$ 15,000
3	Screen & Float Attachment	$ 35,000.00	LS	1	$ 35,000
4	Install Bar Rack on Existing Bottom Outlet	$ 15,000.00	LS	1	$ 15,000
5	Furnish and Install Aluminum Staff Gauge in Concrete Footing	$ 3,500.00	LS	1	$ 3,500
6	Furnish and Install Pressure Sensor in Outlet Pipe; Provide Radio Transmittal of Data to West Point WTP	$ 12,500.00	LS	1	$ 12,500
			Estimated Construction Cost		$ 106,000
			20% Construction Cost Contingencies		$ 21,200
			Planning and Engineering Design (10% of Construction)		$ 10,600
			Construction Administration (8% of Construction)		$ 8,500
			Total Estimated Costs		$ 146,300

(1) Existing Gate Operator to Remain.

It is recommended that an aluminum staff gauge be installed in the reservoir near the reservoir bottom and visible from the embankment levee. The staff gauge will serve as a visual check of the reservoir operating level. With expansion of the Regulating Reservoir a water surface elevation (depth) to volume curve will be prepared for the West Point Operators.

To provide an electronic monitoring of the reservoir level, a pressure sensor is proposed on the outlet pipe. The pressure in the outlet pipe can be converted to provide the relative elevation difference between the reservoir outlet pipe and the water surface elevation. Regulating Reservoir water surface elevations can be electronically transmitted to the West Point WTP along with the Bear Creek flow meter data.

3.0 MIDDLE FORK MOKELUMNE RIVER SUPPLY, PUMP STATION AND PIPELINE IMPROVEMENTS

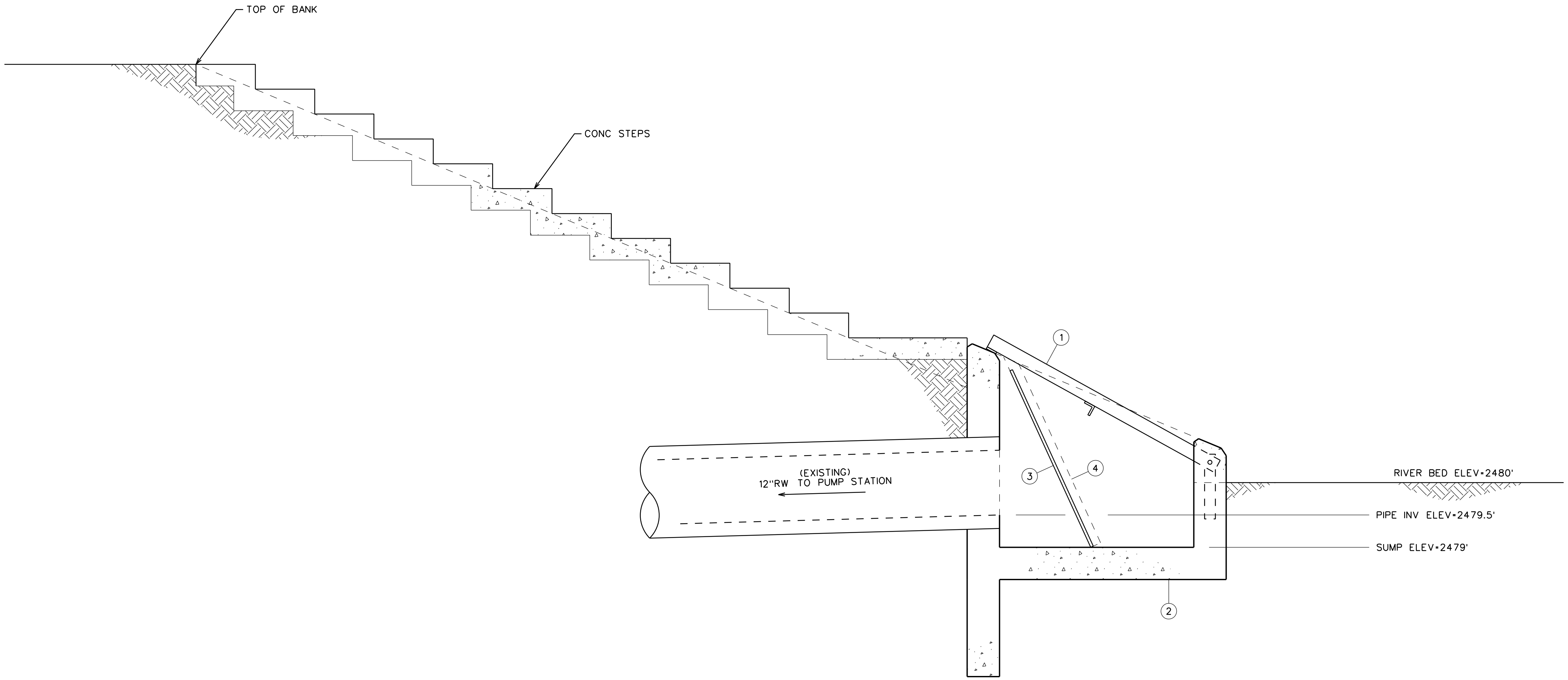
In this section of the West Point Water Master Plan improvements to the existing Middle Fork Mokelumne River (MFMR) supply system, including modifications to the Middle Fork Pump Station intake facilities, replacement of the existing MFMR Pump Station and the replacement of the pipeline that delivers MFMR water from the MFMR Pump Station to the West Point WTP, are discussed. In addition, the estimated cost of redundant West Point Water Treatment Plant capacity improvements, additional improvements to the Bummerville water distribution system and the estimated cost and benefits of either expanding Schaads Reservoir and/or constructing a new reservoir below the confluence of the Forest Creek-Middle Fork Mokelumne River (Forest Creek – Middle Fork Reservoir) are developed.

The District currently has an agreement to purchase up to 200 acre-ft. per year of MFMR water from CPUD.

3.1 Middle Fork Mokelumne River Pump Station Intake

As previously discussed in Section 1.0 of this Report, the MFMR Pump Station intake facilities consist of two, 12-inch diameter, perforated or slotted, pipelines placed in the gravel material upstream of the MFMR diversion structure and, a 12-inch diameter perforated pipe placed along the upstream face of the diversion structure. During the winter of 2016-2017, high flows in the Middle Fork damaged the near surface perforated pipe collector and the perforated pipeline sections were removed by District Staff. Reinstallation by CCWD staff was completed in July 2018.

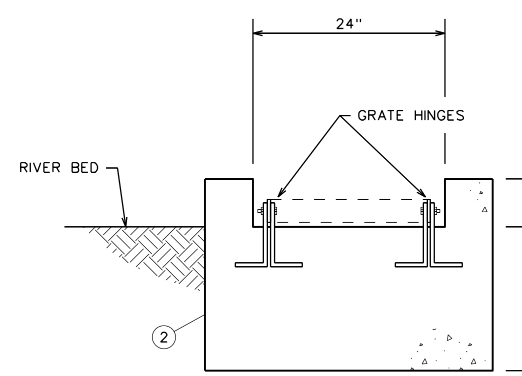
With the vulnerability of the exposed perforated pipe intake to damage from high water flows, alternative, longer term pump station intake solutions are considered here. The first option to improving the existing intake facilities includes replacing the near surface perforated pipe collector with a screen inlet placed in a concrete inlet structure. Water which is not collected by the pump station intake pipe would be allowed to flow through the inlet structure and return to the River. The existing diversion structure constructed across the River channel would remain with stop logs placed on the diversion structure except for that section closest to the new screened inlet. During low flows the river would be diverted toward the inlet screen and pump station intake. The inlet screen would be designed with access from above so that an operator standing on top of the concrete inlet structure could remove the screen through a hinged top grate, clean the interior screen and top grate of any debris and return the screen to a precast slot constructed in the inlet structure. With minimal disturbance to the river channel it is believed that a new screened inlet structure placed at the intake of the pump station intake pipe could be more easily permitted by the California Department of Fish and Wildlife than other alternatives that require excavation within the river channel. District Engineering Staff reviewed the preliminary plan presented in **Figure 21**. Staff directed modifications of this proposal with features similar to a "Ranney" type collector which would include excavation within the MFMR channel and include installation of perforated or screened collector pipes in the riverbed.



RIVER INTAKE PROFILE 1

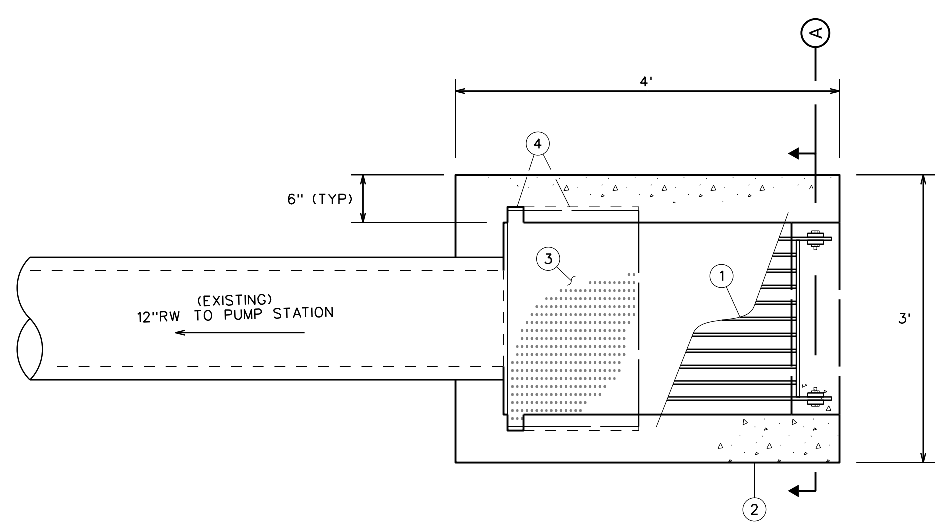
SCALE: 1"=1'

1 HINGED GRATE
2 CONC INTAKE STRUCTURE
3 PERF SS SCREEN (1/4" MESH) W/ HANDLE & SCRREN SUPPORTS
4 2"x2" NOTCH IN CONC (TO ACCEPT PERF SCREEN)



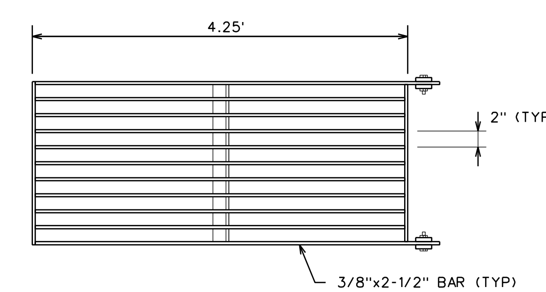
SECTION A

SCALE: 1"=1'



RIVER INTAKE PLAN 2

SCALE: 1"=1'



HINGED GRATE DETAIL 3

SCALE: 1"=1'

FIGURE 21

REVISIONS

NO.	DESCRIPTION	DATE	BY

BENCHMARK
DESCRIPTION:
ELEV.
DATUM: NGVD 1929

SCALE: 1"=1'
JOB NO. 2517-01

30% PLANS
RELEASE 2
NOV 2017

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CALAVERAS COUNTY WATER DISTRICT
MIDDLE FORK RAW WATER PUMP STATION, WEST POINT
CALAVERAS COUNTY, CALIFORNIA

RIVER INTAKE STRUCTURE

CONSULTING KASL ENGINEERS
7777 Greenback Lane
Suite 104
Citrus Heights, CA 95610
Tel. (916) 722-1800
Fax (916) 722-4595
CIVIL - WATER RESOURCES - SURVEYING

Figure 22 presents a modification to the initial pump station intake proposal that includes the installation of a series of 8-inch diameter perforated pipes placed within, and aligned parallel to, the river. A ± 100-foot-long intake collection gallery is proposed with six, 8-inch diameter, perforated collectors that would connect to a 12-inch diameter manifold which would, in turn, discharge to the MFMR pump station sump. With further design development, the length and number of perforated pipe collectors would be reviewed. Either C900 PVC or high strength HDPE pipe could be used for the collection gallery and manifold piping. The perforated pipe collectors would be set in 1- to 2-inch diameter drain rock bedding and initial backfill material. Final backfill would utilize larger diameter (2- to 6-inch diameter) cobble and existing riverbed material. The design presented in Figure 22 is similar to the river collection gallery installed in the Calaveras River for the Jenny Lind Water Treatment Plant. The Jenny Lind raw water collection system was placed into operation in the early 1990s and has been in continuous service since that time. For the Jenny Lind Project, the Contractor received approval from the California Department of Fish and Game (now Wildlife) to construct coffer dams to divert portions of the Calaveras River during construction.

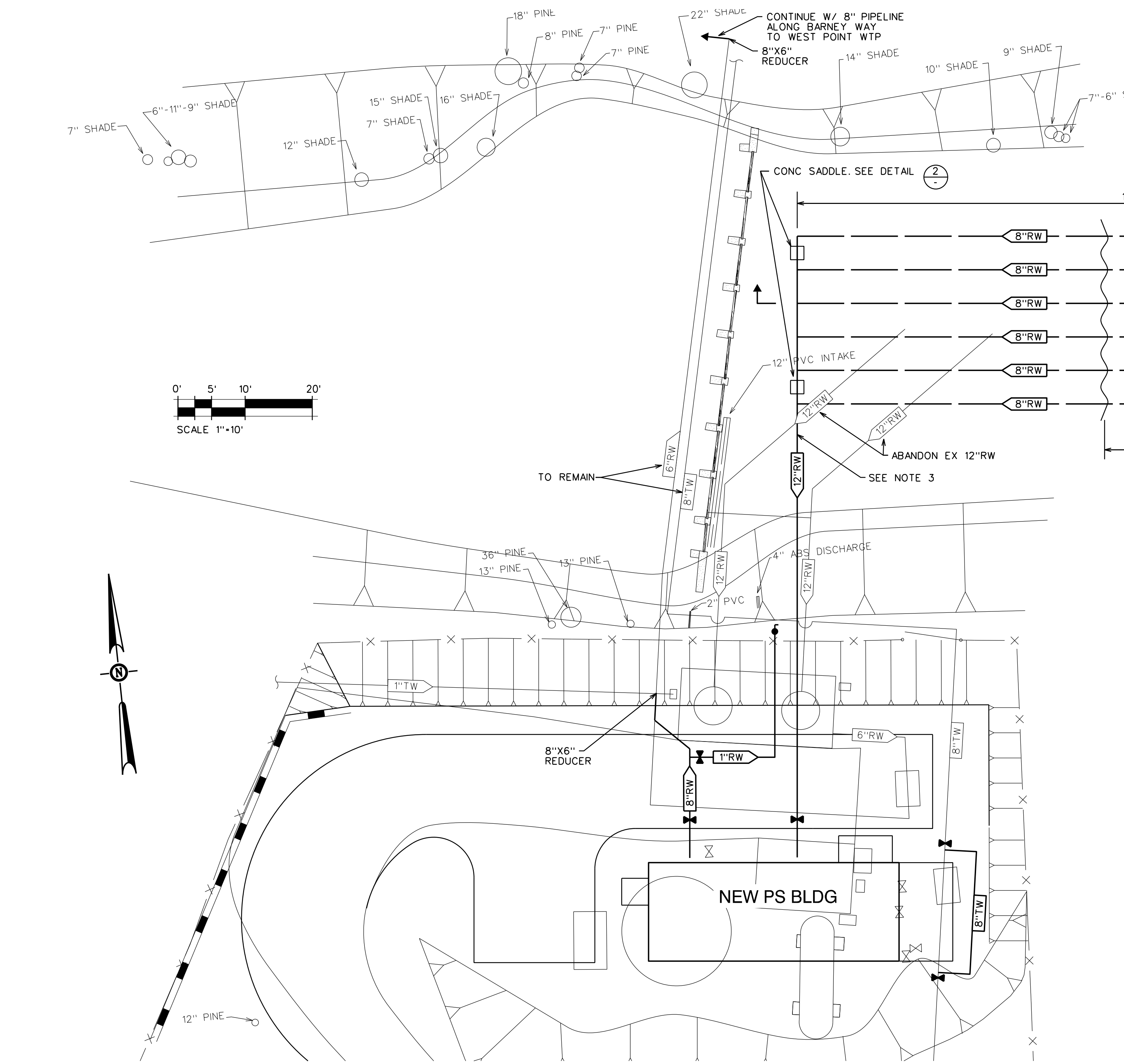
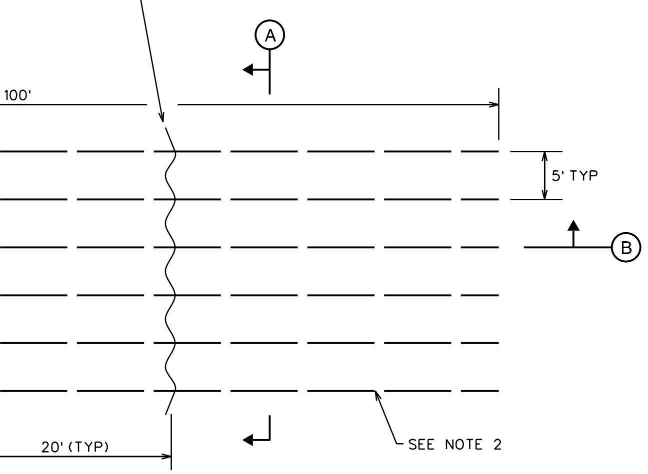
CCWD Engineering Staff also reviewed the MFMR pump station intake facilities shown in Figure 22 and suggested that further modifications may be warranted.

The estimated costs of the currently proposed MFMR pump station intake facilities are presented in **Table 6**.

3.2 Middle Fork Mokelumne River Pump Station

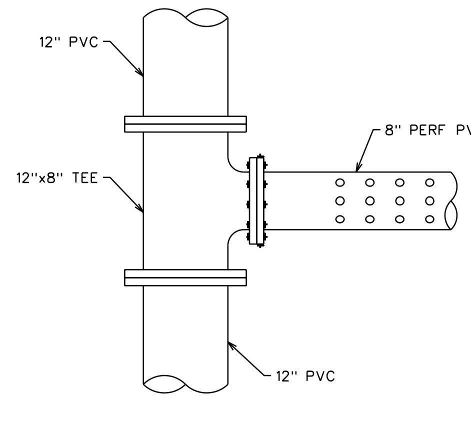
The existing MFMR Pump Station is constructed with a capacity of 200 gpm. As previously discussed in Section 1.0, the pump station capacity should be increased to provide 100% of the West Point service area water supply during periods when water from Bear River is not available or Bear River water quality is not acceptable. According to the Mokelumne River Long-Term Needs Water Study, a MFMR pump station capacity of 500 gpm would be expected to meet the demands of the West Point service area at least through the year 2100. The District has suggested that a smaller, satellite, water treatment plant with approximately 200 gpm capacity could be constructed in the future to serve the Wilseyville area. If this did occur the capacity of the MFMR pump station could be further reduced. A future Wilseyville WTP constructed in the vicinity of Blue Mountain Road would require approval, design and construction of a Middle Fork Ditch Pipeline and a new water appropriation agreement with CPUD. For the purpose of this Supplemental Master Plan Report, MFMR pump station improvements with 500 gpm capacity are proposed. The pumps could be driven by variable frequency drive (VFD) motors which would allow a range (reduction) of flows in the future.

As further described in this Supplemental Master Plan Report, the design of the MFMR Pump Station is based on the replacement of the existing 6-inch diameter MFMR Pump Station to West Point WTP supply pipeline with an 8-inch diameter pipe. The new MFMR pump station pumps would lift the Middle Fork supply to the West Point WTP (static lift of ±450 feet) without the continued operation of the intermediate pump station on Acorn Way. This existing intermediate pumping facility would be removed from service.

RIVER INTAKE PLAN

SCALE: 1"=10'



CONNECTION DETAIL 1

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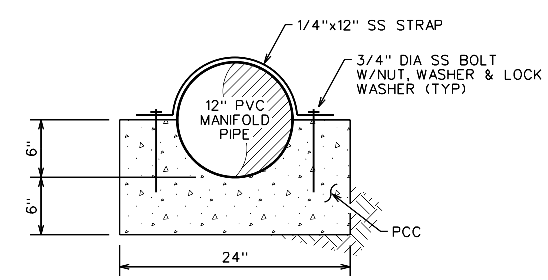

CONC SADDLE DETAIL 2

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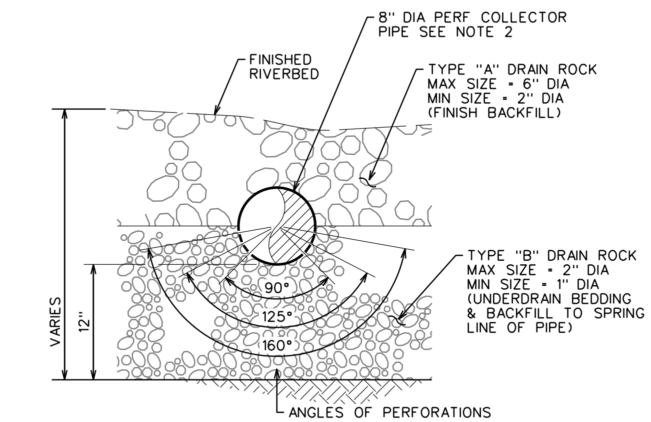

DRAIN ROCK DETAIL 3

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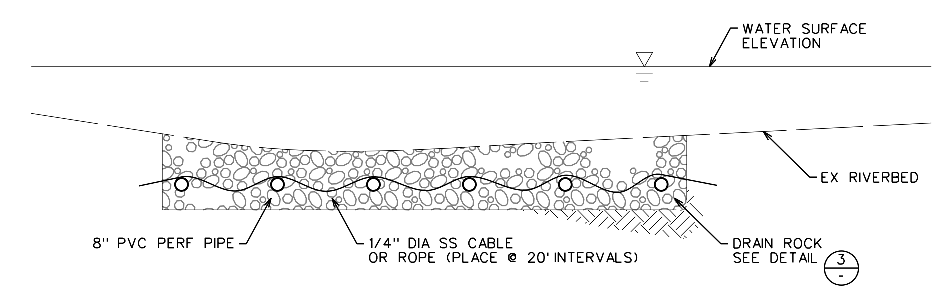

SECTION A

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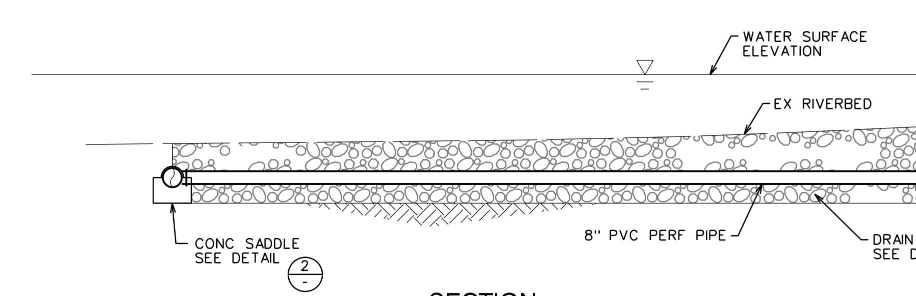

SECTION B

NO SCALE

NOTES:

1. WATER SURFACE ELEV. 2482' AS RECORDED ON MAY 4, 2017
2. 8" PERFORATED COLLECTOR PIPE SHALL BE SCHEDULE 40 PVC PERFORATED UNDERDRAIN PIPE WITH SOLVENT WELD JOINTS OR EQUAL. PERFORATION HOLE SIZE: 1/2", HOLE SPACING: 3-1/4".
3. 12" MANIFOLD PIPE TO PROPOSED INFLUENT PUMP STATION SHALL BE 12" CL 305 PVC.
4. RETURN RIVER BED TO EXISTING ELEVATIONS AFTER INTAKE MANIFOLD AND INTAKE COLLECTORS ARE PLACED.

NO.	DESCRIPTION	DATE	BY

REVISIONS

BENCHMARK DESCRIPTION:

ELEV. DATUM: NGVD 1929

SCALE: 1"=10'

JOB NO. 2517-01

30% PLANS RELEASE 2 NOV 2017

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CALAVERAS COUNTY WATER DISTRICT
MIDDLE FORK RAW WATER PUMP STATION, WEST POINT
CALAVERAS COUNTY, CALIFORNIA

RAW WATER INTAKE

CONSULTING KASL ENGINEERS
7777 Greenback Lane Suite 104 Citrus Heights, CA 95610 Tel. (916) 722-1800 Fax (916) 722-4595
CIVIL - WATER RESOURCES - SURVEYING

FIGURE 22

IF THIS SHEET IS LESS THAN 22" X 34" IT IS A REDUCED PRINT, SCALE ACCORDINGLY

Table 6. Estimated Costs of the Currently Proposed MFMR Pump Station Intake Facilities

ITEM NO.	DESCRIPTION	ESTIMATED UNIT COST	UNIT	ESTIMATED QUANTITY	ESTIMATED COST
1	12" Diameter Intake Manifold	$ 150.00	LF	40	$ 6,000
2	8" Diameter Perforated Pipe Collectors	$ 100.00	LF	600	$ 60,000
3	Concrete Saddles and SS Straps	$ 750.00	EA	2	$ 1,500
4	1/4" Diameter Stainless Steel Cable	$ 15.00	LF	250	$ 3,750
5	Type A Drain Rock	$ 100.00	CY	220	$ 22,000
6	Type B Drain Rock	$ 120.00	CY	110	$ 13,200
7	12" Diameter Piping to MFMR PS Building	$ 150.00	LF	80	$ 12,000
				Estimated Construction Cost	$ 118,450
				20% Construction Cost Contingencies	$ 23,750
				Planning and Engineering Design (10% of Construction)	$ 12,000
				Permitting (est.)	$ 15,000
				Construction Administration (8% of Construction)	$ 9,500
				Administration and Legal Costs (5% of Construction)	$ 6,000
				TOTAL ESTIMATED COSTS	$ 184,700

The new MFMR pumps would also provide head for 20 psi of losses through the 1 MGD microfloc plant at the West Point WTP. A total design head (TDH) of approximately 550 feet is calculated with the new 8-inch supply pipe and a design flow at 500 gpm. To respond to the high static and dynamic pressures which must be carried by the new pipeline, high strength, Class 305, PVC C900 pipe is proposed. If the MFMR flow delivered by the new pump station exceeds the demands of the West Point WTP, excess flow would be diverted to the West Point Regulating Reservoir via the existing supply line placed between the Regulating Reservoir and the West Point WTP.

The finished floor elevation at the existing MFMR pump station is too low. High water levels in the MFMR at the pump station can exceed the existing MFMR pump station floor elevation (±2,487.2), as evidenced by flooding of the building housing the MFMR pumps in the winter of 2016-17.

Figure 23 presents the proposed MFMR Pump Station Demolition Plan. The existing pump station building, storage building, abandoned filter, standby generator building and fuel tank pad would be removed together with existing pavement. The pavement removed could be ground and reused as subgrade for the new pump station construction. Demolition of existing improvements will need to protect the 8-inch diameter treated water line which crosses through the pump station site and serves nearby Wilseyville residents. Similarly, the existing 6-inch diameter raw water supply line that crosses the Middle Fork within

the MFMR pump station diversion structure must also remain. This short section of existing 6-inch raw water would remain and would connect, on both sides of the river crossing, with the new 8-inch diameter pipe improvements.

Figure 24 presents the proposed MFMR Pump Station Site Plan. The new pump station is proposed with a finished floor of 2490.15, approximately 3 feet higher than the finished floor elevation of the existing pump station. As shown in Figure 24, site grades are also raised 3 to 4 feet and the site surfaced with 3-inch-thick AC over 8-inch thick Class 2 AB pavement. Rock slope protection is proposed to transition the new site grades to existing grades at the top of bank. No fill is proposed within the Middle Fork Mokelumne River as part of these pump station improvements. A new standby generator is proposed on a separate concrete pad with cover attached to the east side of the new MFMR Pump Station building.

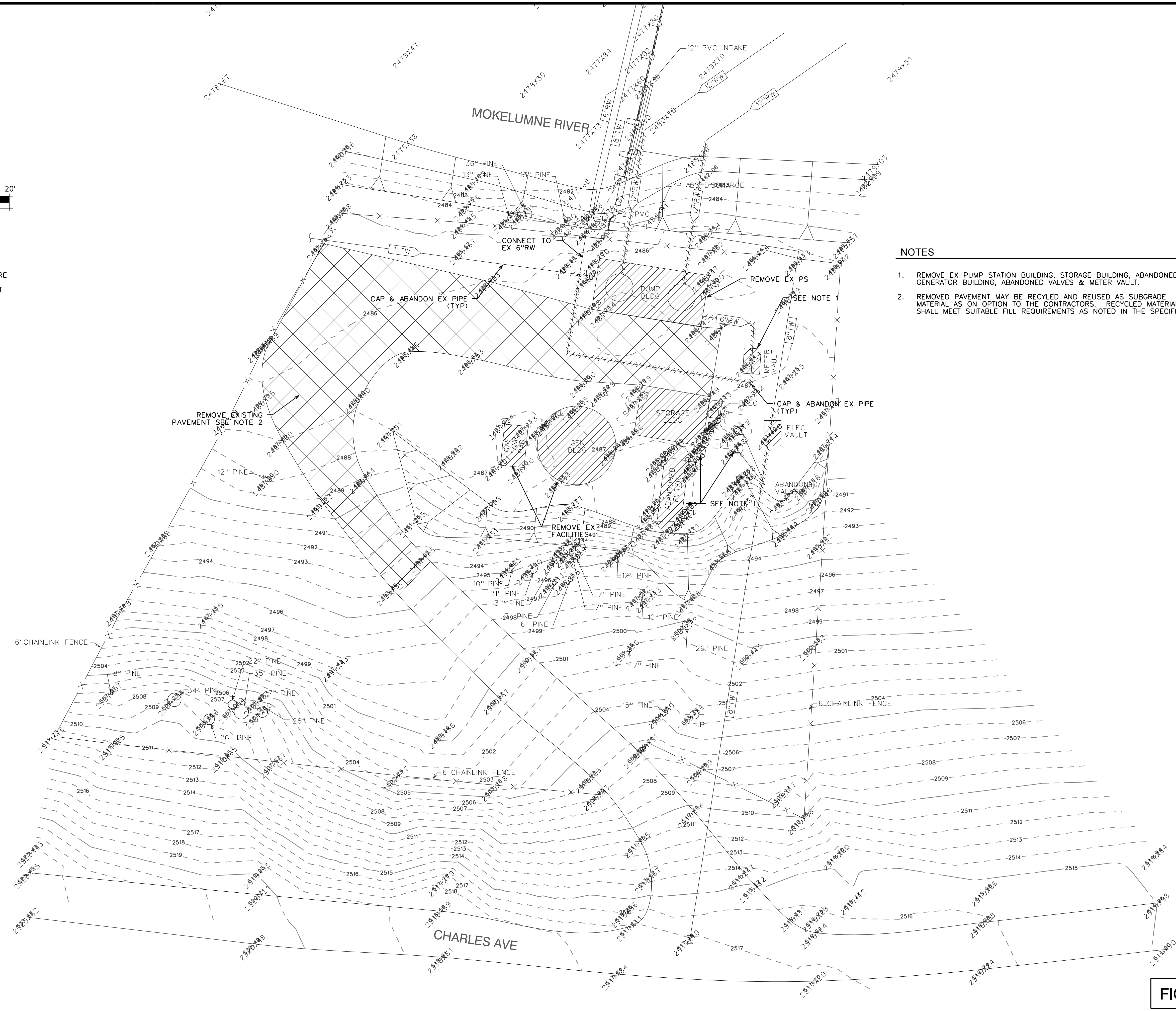
The new, 2 pump, pump station plan and section is presented in **Figure 25.** Two, multistage vertical turbine pumps (100% redundancy) are proposed. To deliver 500 gpm with a TDH of approximately 550 feet will require 100 horsepower variable frequency drive motors. The VFDs will provide a "soft start" to protect the supply pipeline from "pump on" surges. A surge anticipation and pressure relief valve is proposed to protect piping from reverse surges when a sudden power loss occurs. The pump station will be supplied with a flow meter. A pressure gauge would be installed at the discharge of the pumps to monitor pump performance and provide shut down alarms in the event of discharge pressures or surges outside of acceptable ranges. The Motor Control Center (MCC) installation will include a Human-Machine Interface (HMI) panel. The information available on this panel (flow rate, pump operating station discharge pressure, standby generator status, standby generator fuel level, generator oil pressure level, pump fail, building intrusion alarms and the like) will be relayed, via radio telemetry, to the West Point WTP. CCWD electrical and instrumentation staff have confirmed that radio transmission of MFMR pump station conditions and remote Supervisory Control and Data Acquisition (SCADA) is available between the West Point WTP and the MFMR Pump Station. Information displayed on the MFMR Pump Station Programmable Logic Controller (PLC) will also be available for display and response at the West Point WTP central computer.

Further refinement of new MFMR pump station facilities will occur at the design stage. The District may elect to install a 3 pump, pump station with any two pumps capable of delivering the Master Plan raw water demands to the West Point Water Treatment Plant. Under these conditions, each of the three multistage vertical turbine pumps could be driven by ± 75 hp variable frequency drive motors.

SCALE 1"=10'

LEGEND

- REMOVE EXISTING STRUCTURE
- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING UTILITY



NOTES

1. REMOVE EX PUMP STATION BUILDING, STORAGE BUILDING, ABANDONED FILTER, GENERATOR BUILDING, ABANDONED VALVES & METER VAULT.
2. REMOVED PAVEMENT MAY BE RECYCLED AND REUSED AS SUBGRADE MATERIAL AS ON OPTION TO THE CONTRACTORS. RECYCLED MATERIAL SHALL MEET SUITABLE FILL REQUIREMENTS AS NOTED IN THE SPECIFICATION.

NO.	REVISIONS DESCRIPTION	DATE	BY

BENCHMARK DESCRIPTION:

ELEV. DATUM: NGVD 1929

30% PLANS RELEASE 2 NOV 2017

SCALE:

JOB NO. 2517-01

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CALAVERAS COUNTY WATER DISTRICT MIDDLE FORK RAW WATER PUMP STATION, WEST POINT

CALAVERAS COUNTY, CALIFORNIA

MOKELUMNE RIVER PUMP STATION DEMOLITION PLAN

KASL CONSULTING ENGINEERS
7777 Greenback Lane Suite 104 Citrus Heights, CA 95610
Tel. (916) 722-1800
Fax (916) 722-4595
CIVIL - WATER RESOURCES - SURVEYING

FIGURE 23

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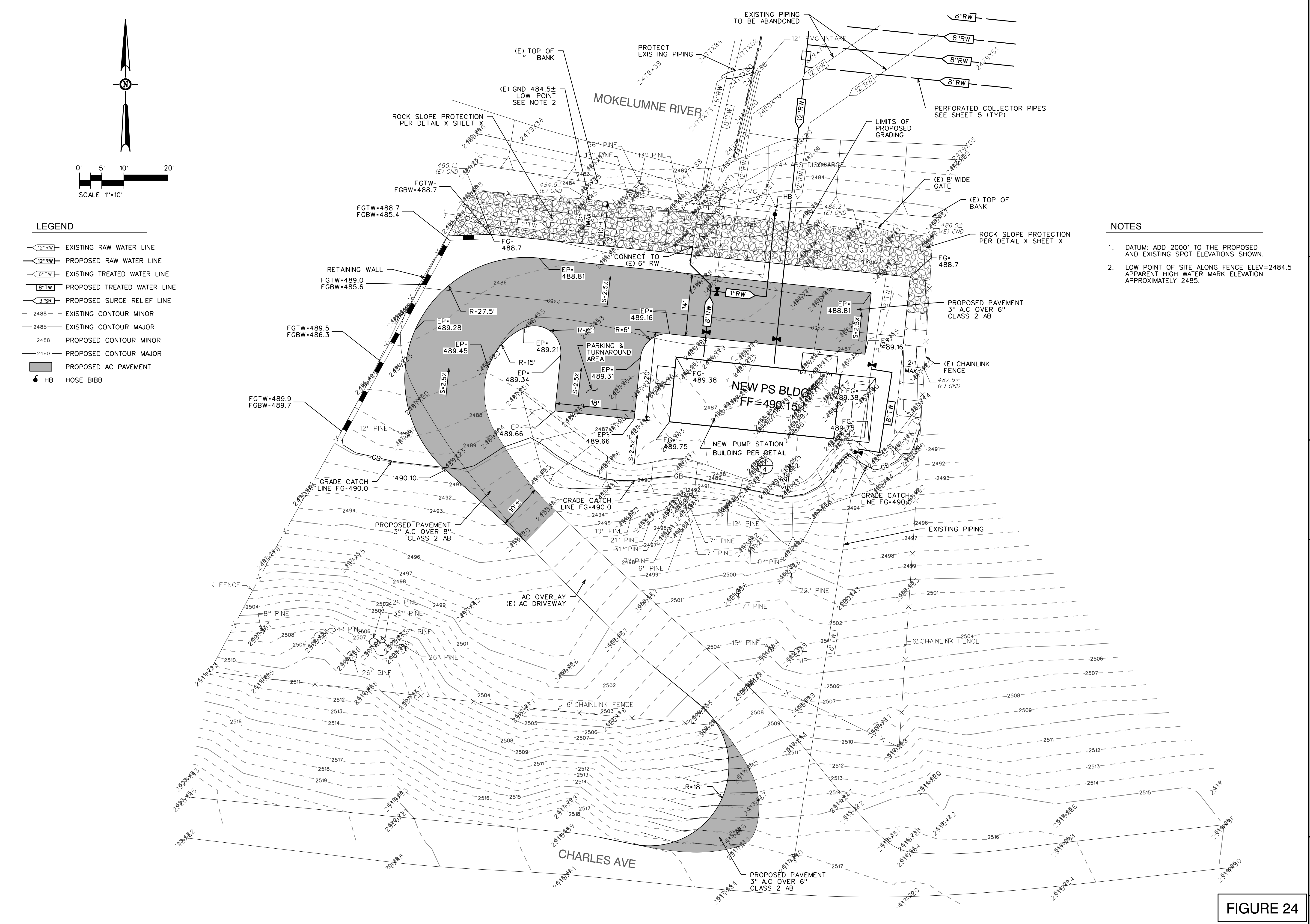

REVISIONS

NO.	DESCRIPTION	DATE	BY

ELEV.
DATUM: NGVD 1929

BENCHMARK DESCRIPTION:

30% PLANS
RELEASE 2
NOV 2017

SCALE: 1"=10'
JOB NO. 2517-01

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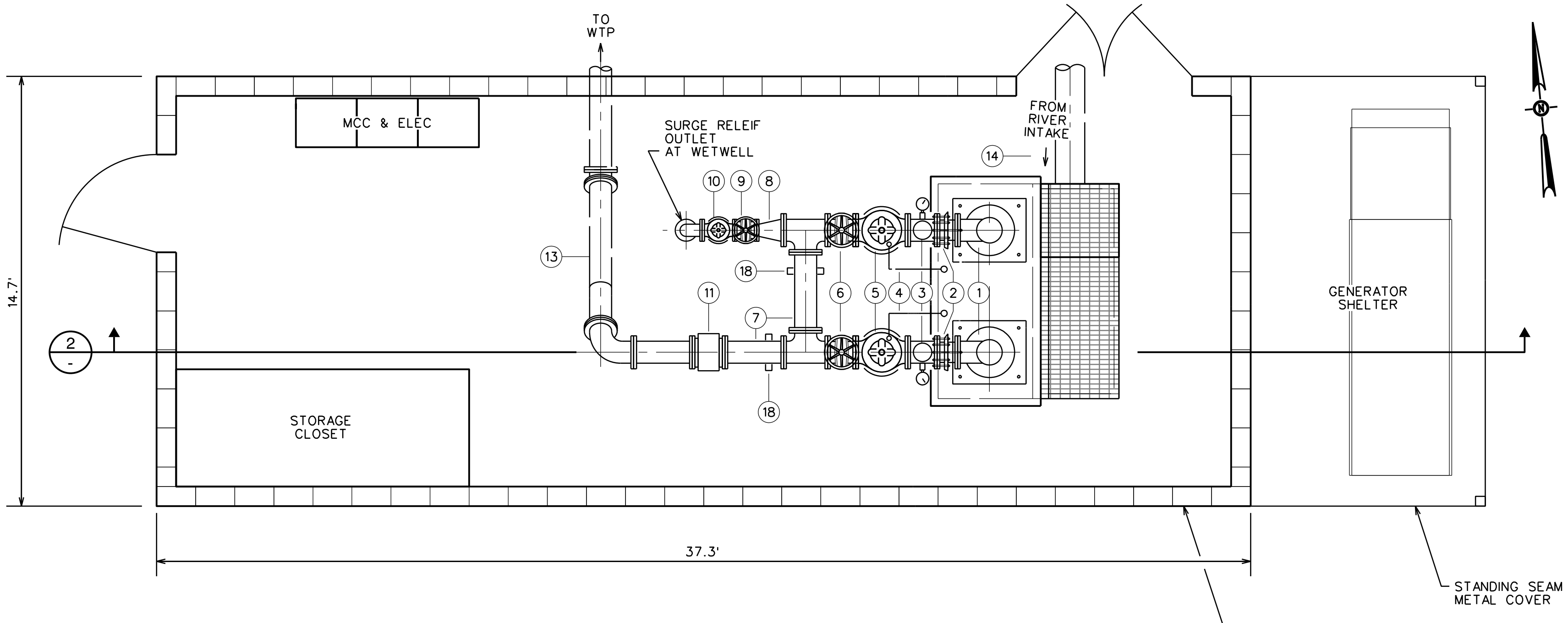
CALAVERAS COUNTY WATER DISTRICT
MIDDLE FORK RAW WATER PUMP STATION, WEST POINT
CALAVERAS COUNTY, CALIFORNIA

MOKELUMNE RIVER PUMP STATION SITE AND GRADING PLAN

CONSULTING KASL ENGINEERS
7777 Greenback Lane
Suite 104
Citrus Heights, CA 95610
Tel. (916) 722-1800
Fax (916) 722-4595
CIVIL - WATER RESOURCES - SURVEYING

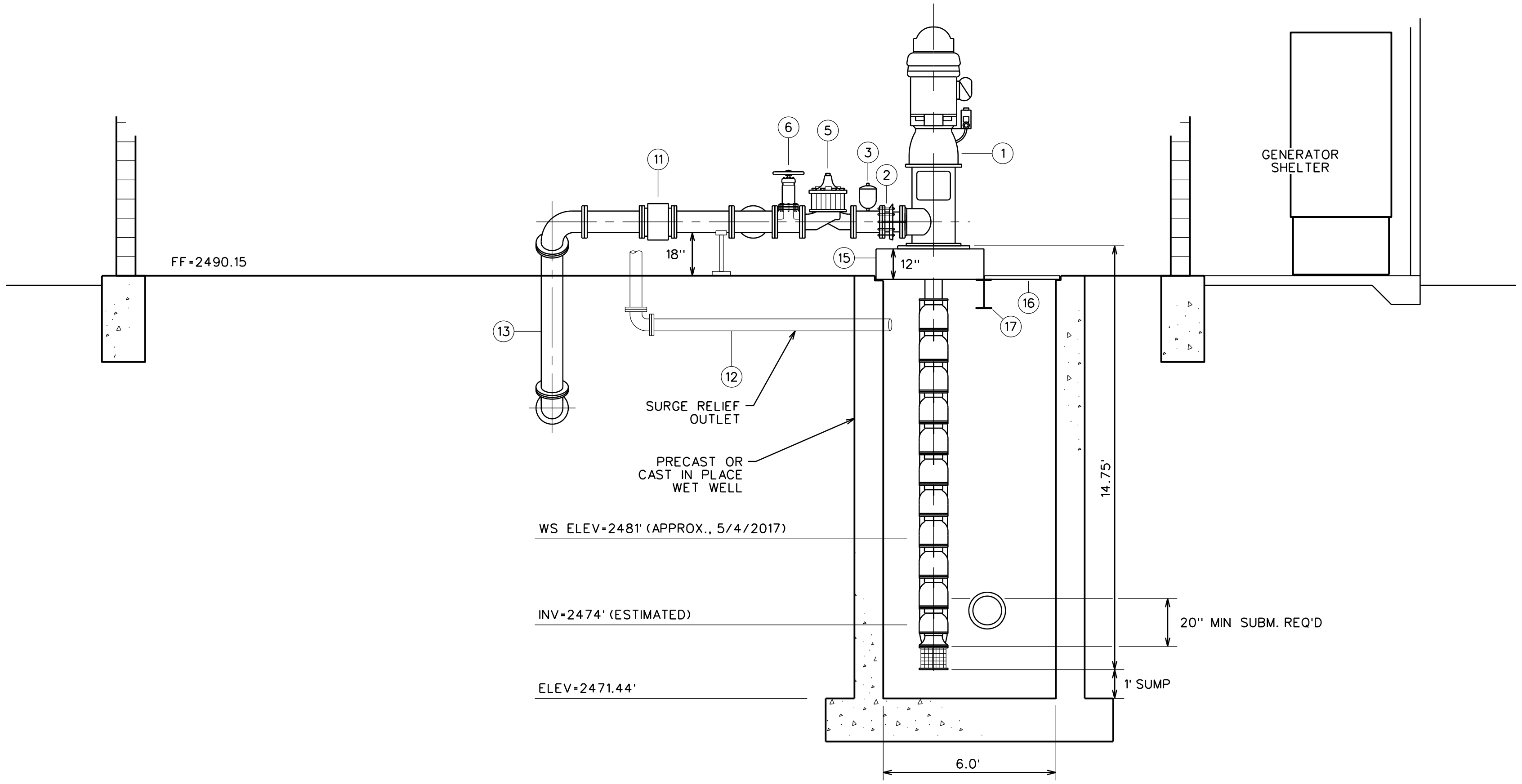
FIGURE 24

IF THIS SHEET IS LESS THAN 22" X 34" IT IS A REDUCED PRINT, SCALE ACCORDINGLY



PUMP STATION PLAN (1)
SCALE: 1"=3'

1. VERTICAL TURBINE PUMP
2. 8" DISMANTLING JOINT
3. 1" AVRV, PRESSURE GAUGES & 8" DIP SPOOL
4. PUMP CONTROL VALVE DRAIN LINE
5. 8" PUMP CONTROL & CHECK VALVE
6. 8" GATE VALVE
7. 8" DIP SPOOL
8. 8"x3" REDUCER
9. 3" GATE VALVE
10. 3" SURGE ANTICIPATION & PRESSURE RELIEF VALVE
11. 8" MAGNETIC FLOW METER
12. 3" DIP
13. 8" DIP
14. 12" DIP
15. PUMP BASE
16. GALVANIZED BAR GRATING
17. I BEAM
18. PIPE SUPPORT



PUMP STATION SECTION (2)
SCALE: 1"=3'

REVISIONS

NO.	DESCRIPTION	DATE	BY

BENCHMARK
DESCRIPTION:
ELEV.
DATUM: NGVD 1929

30% PLANS
RELEASE 2
NOV 2017

SCALE:
JOB NO. 2517-01

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CALAVERAS COUNTY WATER DISTRICT
MIDDLE FORK RAW WATER PUMP STATION, WEST POINT
CALAVERAS COUNTY, CALIFORNIA

PUMP STATION PLAN AND SECTION

CONSULTING KASL ENGINEERS
7777 Greenback Lane
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Fax (916) 722-4595
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FIGURE 25

IF THIS SHEET IS LESS THAN 22" X 34" IT IS A REDUCED PRINT, SCALE ACCORDINGLY

As shown in Figure 25, a concrete masonry unit (CMU) block wall pump station building is proposed (dimensions approximately 15 feet (width) by 37 ½ feet (length)) with standing metal seam roof. The pump station roof will include skylights or hatches centered over the pumps to permit removal of the vertical turbine pumps through the skylights or the roof access hatches, if necessary, for pump repair or for pump replacement. A seven-foot-wide equipment access and 3'-6" wide personnel access doors are also proposed.

The MFMR pump station replacement plans shown in Figures 23, 24 and 25 were reviewed with the CCWD District Engineer. The preliminary pump station improvements were approved, in concept, for the purpose of this Master Plan. A cost estimate of the proposed MFMR pump station is presented in **Table 7**.

3.3 Middle Fork Pump Station to West Point WTP Pipeline

To deliver 500 gpm from the Middle Fork Pump Station to the West Point WTP will require replacement of the existing 6-inch diameter pipeline with a new 8-inch diameter pipeline. Three alternative alignments were considered and are shown in **Figure 26**.

3.3.1 Alternative Pipeline Alignment 1

This alternative would replace the existing MFMR supply pipeline with a new pipeline constructed along the same route as the existing. The disadvantage of this alignment include construction along an existing (15-foot-wde) CCWD pipeline easement located between Acorn Way and Barney Way and along an existing (15-foot-wide) CCWD pipeline easement located between Bald Mountain Road and Smitty Lane. This alternative alignment also requires crossing the Middle Fork within the existing MFMR diversion structure. The advantage of this alternative is that it is the shortest of the three alternative alignments considered (approximately 10,225 lineal feet).

3.3.2 Alternative Pipeline Alignment 2

With this option the new supply pipeline would not cross the MFMR between Charles Avenue and Barney Way at the existing MFMR pump station. Instead, the Alternative 2 pipeline alignment continues along Charles Way to State Route 26 and would cross the MFMR at the existing SR 26 Bridge. This is a relatively new bridge structure and includes a utility chase within the bridge structure. The West Point sewer outfall to the West Point WWTP is included in this structure. There is adequate space (in the utility chase) to also place an 8-inch diameter raw water line. Alignment 2 continues along State Route 26 through Central West Point to Winton Road and then along Winton Road and Smitty Lane and to the West Point WTP.

The advantage of this alignment is that the pipeline could be placed along and within public road rights of way from the MFMR Pump Station to the West Point WTP. The disadvantages of this alternative is that more than 1.5 miles of this route is within State Highway 26 and would require encroachment permits from Caltrans. Typically, Caltrans does not permit utilities placed longitudinally within the paved roadway section. With adequate cover (min. 42 inches) the new pipeline could be placed along the unpaved shoulder. There are, however, portions of State Route 26 within the Alternative 2 Alignment where there is little or no shoulder available. Alternative 2 is the longest of the three alternative routes considered (approximately 13,900 feet) and nearly 3700 feet longer than Alternative 1.

Table 7. Cost Estimate of the Proposed MFMR Pump Station

ITEM NO.	DESCRIPTION	ESTIMATED UNIT COST	UNIT	ESTIMATED QUANTITY	ESTIMATED COST
1	Mobilization, Site Clearing and Grubbing	$ 50,000.00	LS	1	$ 50,000
2	Remove Existing Structures	$ 5,000.00	EA	4	$ 20,000
3	Remove Existing Fence	$ 10.00	LF	50	$ 500
4	Remove Existing Pavement	$ 2.00	SF	2300	$ 4,600
5	Remove Existing Raw Water Piping	$ 25.00	LF	160	$ 4,000
6	Earthwork Embankment	$ 20.00	CY	600	$ 12,000
7	Rock Slope Protection	$ 200.00	CY	150	$ 30,000
8	Type A A.C.	$ 250.00	TONS	50	$ 12,500
9	Class 2 A.B.	$ 100.00	TONS	85	$ 8,500
10	Install 4' Tall CMU Retaining Wall	$ 150.00	LF	55	$ 8,250
11	Install 6' Tall Chain Link Fence & Gate	$ 50.00	LF	50	$ 2,500
12	1" Raw Water Pipe	$ 20.00	LF	30	$ 600
13	8" Raw Water Pipe	$ 100.00	LF	30	$ 3,000
14	12" Raw Water Pipe (included in MFMR)				
15	1" Gate Valve	$ 250.00	EA	1	$ 250
16	8" Gate Valve	$ 2,000.00	EA	1	$ 2,000
17	12" Gate Valve	$ 3,000.00	EA	1	$ 3,000
18	Pump Station Building	$ 350.00	SF	570	$ 199,500
19	Vertical Turbine Pumps	$ 75,000.00	EA	2	$ 150,000
20	Pump Station VFD Controls, MCC	$ 80,000.00	LS	1	$ 80,000
20	Pump Station Electrical Panel	$ 95,000.00	LS	1	$ 95,000
21	Pump Station Wet Well	$ 25.00	CY	2000	$ 50,000
22	Pump Station Piping & Valves	$ 20,000.00	LS	1	$ 20,000
22	Underslab Conduits & Piping	$ 5,000.00	LS	1	$ 5,000
23	Fans & Louvers, HVAC	$ 5,000.00	LS	1	$ 5,000
24	Standing Seam Metal Roof	$ 50.00	SF	900	$ 45,000
25	150 kw Standby Generator and ATS	$200,000.00	LS	1	$ 200,000
26	Surge Anticipation and Pressure Relief Valves	$ 10,000.00	LS	1	$ 10,000
27	6" Flow Meter and Misc. Instrumentation	$ 10,000.00	LS	1	$ 10,000
28	SCADA Antennae and Radio Telemetry Equipment	$ 85,000.00	LS	1	$ 85,000
	Estimated Construction Cost all items				$ 1,116,200.00
		20%	Contingency		$ 223,250.00
	Planning & Engineer Designs (10% of Construction Cost)				$ 112,000.00
	Construction Administration (5% of Construction Cost)				$ 56,000.00
	Administration and Legal Costs (2% of Construction Cost)				$ 22,325.00
		TOTAL ESTIMATED COSTS			$ 1,529,775.00

ALTERNATIVE PIPELINE ROUTES
MFMR WATER SUPPLY PIPELINE
MIDDLE FORK PUMP STATION TO
WEST POINT WATER TREATMENT PLANT

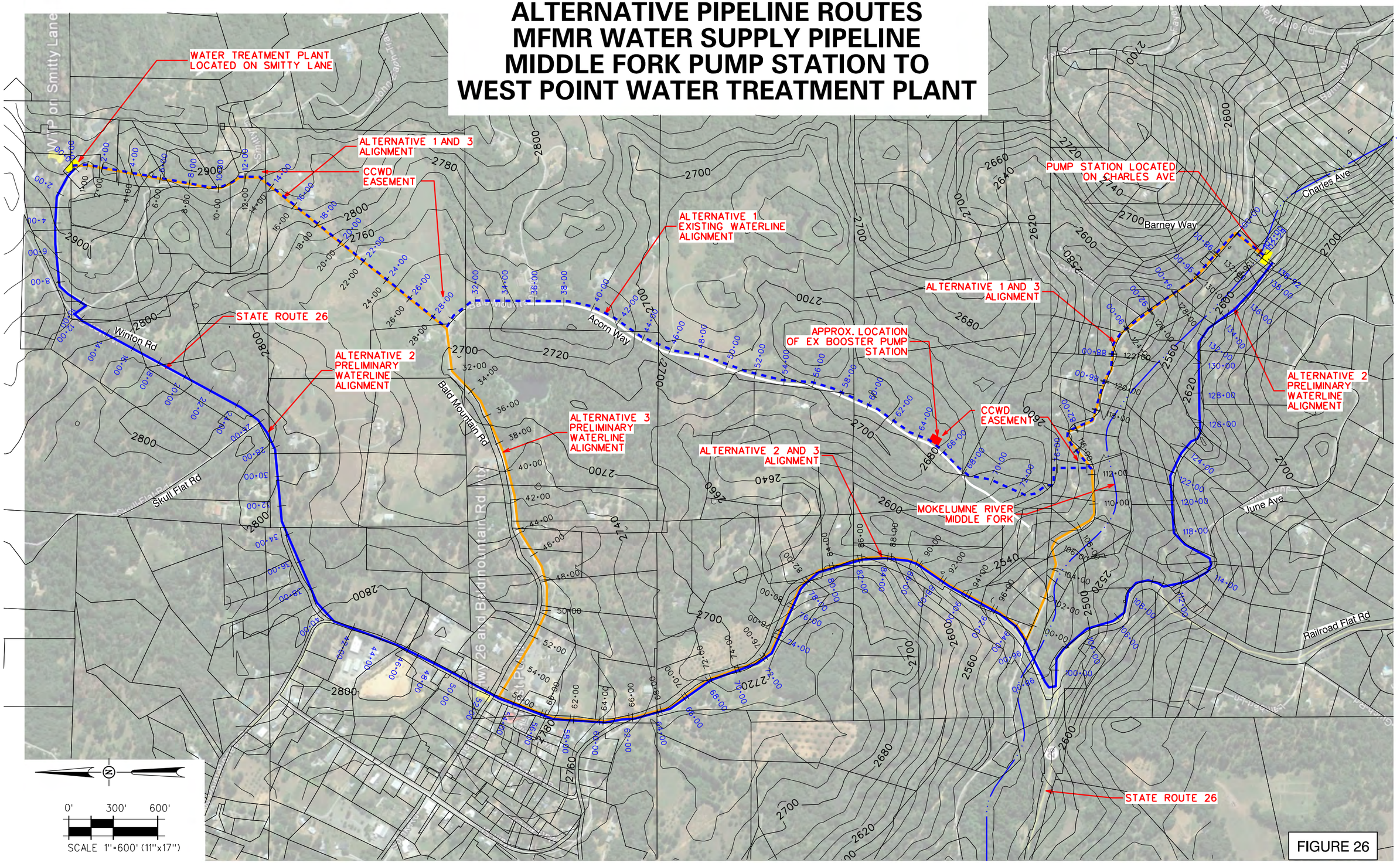

FIGURE 26

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DATE: 3/29/2018

3.3.3 Alternative Pipeline Alignment 3

Alternative 3 is a "hybrid" route combining portions of Alternative 1 and Alternative 2. Along this route the pipeline would utilize the existing MFMR crossing at the MFMR diversion structure and then continue west along Barney Way. Rather than follow the easement between Barney Way and Acorn Way, Alternative 3 would continue along Barney Way to State Route 26 and follow State Route 26 to Bald Mountain Road, continuing north and east along Bald Mountain Road to the existing CCWD easement and Alternative Pipeline Alignment 1 to Smitty Lane and the West Point WTP.

Alternative 3 is approximately 13,625 lineal feet and is, therefore, some 3400 feet longer than Alternative 1, but shorter than Alternative 2. Some of State Route 26 footage and the Acorn Way to Barney Way easement are avoided with this alignment, however, an encroachment permit from Caltrans would still be required and portions of SR 26 with little or no shoulder width are still included.

Based on this analysis and our field review of all three options, the existing alignment, Alternative 1, was selected. Selection of this alignment will require maintenance of the existing CCWD easements and improved easement access, especially during winter months. It is recommended that with the construction of the new pipeline along the Alternative 1 route a minimum 12-foot-wide section of the existing 15-foot-wide easement be surfaced with not less than 6-inch thick Class of Aggregate Base to help provide all weather access.

A profile of the selected, Alternative 1 alignment is presented in **Figure 27.** As noted, higher pressure (CL 305) pipe will be needed for the lower (Barney Way) portions of the pipeline replacement. Construction of the new MFMR water supply pipeline with higher strength pipe is considered a reasonable tradeoff to the continued operation of the Acorn Pump Station which is difficult to access and maintain, especially during winter months.

With the Alternative 1 Alignment and the use of PVC C900 pipe materials, a Hazen Williams C=130 coefficient was assumed consistent with CCWD Design Standards. At 500 gpm the delivery velocity would be 3.19 ft./sec. An automatic flow control regulating valve is proposed near the connection of the MFMR pipeline to the West Point WTP to permit bypass of excess flows to the Regulating Reservoir when the WWTP is in filter backwash or clarifier scour modes. The flow regulating valve would be programmed to divert MFMR flows to the Regulating Reservoir and then return the MFMR supply to the West Point WTP when the treatment plant is in normal filtration mode.

The estimated cost of the Middle Fork Mokelumne River Water Supply Pipeline, along the recommended Alternative 1 Alignment, is presented in **Table 8**.

C900 CLASS 165 PSI (DR 25)

HYDRAULIC PROFILE - PROPOSED REPLACEMENT PIPELINE MFMR PUMP STATION TO WEST POINT WTP

EXISTING HYDRAULIC PROFILE SEE NOTE 1

DYNAMIC HEAD SEE NOTE 3

STATIC HEAD SEE NOTE 3

STORAGE TANK ELEVATION= 2925 (FULL) SEE NOTE 2

WTP @20 PSI

WATER TREATMENT PLANT LOCATED ON SMITTY LANE (ASSUME 20 PSI REQUIRED AT WTP) FOR REPLACEMENT PUMP STATION AND PIPELINE.

PRESSURE = 48 PSI DYNAMIC

PRESSURE = 56 PSI DYNAMIC

PRESSURE OUT = 127 PSI ACORN PS

PRESSURE = 115 PSI STATIC

PRESSURE = 170 PSI STATIC

PRESSURE = 119 PSI MF PS

H = 46.2 WTP PSI

H = 97.2 FRICTION

H = 450 STATIC

TDH ±595 FEET

EXISTING HYDRAULIC PROFILE SEE NOTE 1

C900 CLASS 235 PSI (DR 18)

C900 CLASS 305 PSI (DR 14)

(E) PRESSURE IN ACORN PS = 20 PSI

(E) ACORN PUMP STATION

(TO BE ABANDONED)

NEW MIDDLE FORK MOKELUMNE RIVER PUMP STATION LOCATED ON CHARLES AVENUE FLOOR EL ±2490 MIN WATER SURFACE EL ±2474

NOTES:

1. HYDRAULIC PROFILE OF EXISTING 6" PIPELINE, PER CCWD WEST POINT/WILSEYVILLE WATER SYSTEM INTERTIE PLANS DATED 8-10-88.
2. MAXIMUM WATER SURFACE ELEVATION OF 2925 ESTABLISHED FROM PAGE 7 OF THE CCWD WEST POINT/WILSEYVILLE WATER SYSTEM INTERTIE PLANS DATED 8-10-88.
3. HYDRAULIC PROFILE OF REPLACEMENT PUMP STATION AND PIPELINE (700 GPM).

HYDRAULIC AND GROUND PROFILE ALTERNATIVE 1 REPLACEMENT 8" DIAMETER WATER LINE MIDDLE FORK PUMP STATION TO WEST POINT WATER TREATMENT PLANT EXISTING WATERLINE ALIGNMENT

CALAVERAS COUNTY WATER DISTRICT

FIGURE 27

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Table 8. Cost of the Middle Fork Mokelumne River Water Supply Pipeline Along the Recommended Alternative 1 Alignment

ITEM NO.	DESCRIPTION	ESTIMATED UNIT COST	UNIT	ESTIMATED QUANTITY	ESTIMATED COST
1	Mobilization (1)		LS	1	$ 82,000
2	8" PVC C900 CL 165 (DR 25)	$ 125.00	LF	7000	$ 875,000
3	8" PVC C900 CL 235 (DR 18)	$ 150.00	LF	1800	$ 270,000
4	8" PVC C900 CL 305 (DR 14)	$ 175.00	LF	1450	$ 253,750
5	Air Release Valve	$ 5,000.00	EA	9	$ 45,000
6	Automatic Flow Control Regulating Valve	$ 10,000.00	EA	1	$ 10,000
7	CCWD Easement Area All Weather Surfacing (6" Thick Class 2 A.B.)	$ 40.00	LF	2700	$ 108,000
			Estimated Construction Cost		$ 1,643,750
	20%		Construction Cost Contingencies		$ 328,750
			Planning & Engineering Design (10% of Construction)		$ 164,375
			Construction Administration (5% of Construction)		$ 82,200
			Administrative and Legal Costs (3% of Construction)		$ 49,300
			Total Estimated Costs		$ 2,268,375

(1) Estimated at 5% of Construction Cost.

3.4 Redundant Water Treatment Plant Capacity

The existing West Point Water Treatment Plant has adequate capacity (700 gpm) to meet the current and projected year 2100 treated water demands of the West Point service area. The plant is relatively new being placed into operation in the early 2000's. The existing facility consists of a single "train", 1 MGD, MicroFloc type plant. A second, parallel, 1 MGD Water Treatment Plant, similar to the existing is critical for system redundancy and reliability. With a second, parallel, water treatment plant either facility could be removed from service for repair, cleaning or improvements without loss of service to the West Point community. Concept level plans for the future installation of the second 1 MGD capacity plant were reviewed with CCWD Engineering staff. The existing West Point WTP building is not large enough to house a second WTP with capacity similar to the existing. To facilitate operation and maintenance, it would be preferred to modify / enlarge the existing WTP building to permit a second, parallel, WTP. There are older, abandoned, water

filtration units adjacent to the existing WTP building. These could be removed and the existing building expanded to the east. Other alternatives include evaluation of smaller redundant WTP units that encompass a smaller footprint and may be more easily accommodated with less modifications and /or expansions of the existing building.

Design development of the redundant West Point filter will result in the selection of the best option. For the purpose of this Supplemental Master Plan Report the cost of the redundant WTP can be estimated from the year 2000 Construction Bids received for the existing 1 MGD plant. The average of the 10 Construction Bids received was approximately $1,630,000. Escalating these mid-2000 bid prices (Engineering News Record Construction Cost; ENRCC=6233) to current dollars would result in an estimated cost of $2,925,000 for the redundant West Point Water Treatment Plant (current ENRCC = 11,183).

3.5 Bummerville Water System Distribution Improvements

In the 2004 West Point / Wilseyville / Bummerville System Improvements, Final Feasibility Report (HDR, November 2004) Bummerville supply and distribution system improvements were recommended to improve system reliability and fire flows. These primarily included improvements to replace existing undersized mains with 6 inch and 8 inch diameter pipe. Since 2004, a booster pump was installed at the West Point WTP to better serve Bummerville. Approximately 1200 lineal feet of 8 inch diameter water transmission was constructed between the West Point WTP and the Bummerville Water Storage Tank. A new water tank was installed. Downstream of the new Bummerville tank distribution system improvements recommended in the 2004 Final Feasibility Report have not been constructed. Remaining improvements needed to serve the Bummerville community include:

- 5500 LF of 6 inch diameter water main
- 4550 LF of 8 inch diameter water main
- 18, each, 6 inch diameter gate valves and 17, each, 8 inch diameter gate valves
- Miscellaneous pavement repairs
- 43 water service connections

The estimated cost of these improvements including design, construction management and construction cost is $1,811,000.

3.6 Schaads Reservoir

Schaads Reservoir, owned and operated by the Calaveras Public Utility District, is located on the Middle Fork of the Mokelumne River approximately 5 miles upstream of the intake to the Middle Fork Mokelumne River Pump Station. At a maximum pool elevation of 2,907, Schaads Reservoir has a capacity of approximately 1,700 AF. Expansion of Schaads Reservoir by 250 AF to a capacity of 1,950 AF is included in one of the alternatives (Alternative 2) evaluated by ECORP in the Calaveras County Mokelumne River Long-Term Water Needs Study. Expansion of Schaads Reservoir by 250 AF, restoration of Wilson Dam and Reservoir to 50 AF capacity, increasing the capacity of the West Point Regulating Reservoir to 150 AF, increasing the capacity of the MFMR Pump Station construction of an 8,000-AF capacity Forest Creek-

Middle Fork Reservoir are all included in Alternative 2 of the Long-Term Needs Study to meet the projected year 2100 Calaveras County demands.

Figure 28 presents existing limits of Schaads Reservoir and limits of the Reservoir should it be expanded to meet the recommendations of the Long-Term Water Needs Study. While most of the Reservoir is located within property owned by the Calaveras Public Utility District (APN 010-021-028), upstream reservoir limits do extend into U.S. Forest Service land and onto land owned by Sierra Pacific Industries.

Schaads Reservoir is regulated by the California Division of Safety of Dams (DSOD) and is licensed by Federal Energy Regulating Commission (FERC). Expansion of Schaads Reservoir will require updated agreements / easements with the U.S. Forest Service and Sierra Pacific Industries, approval by DSOD and updated licensing by FERC.

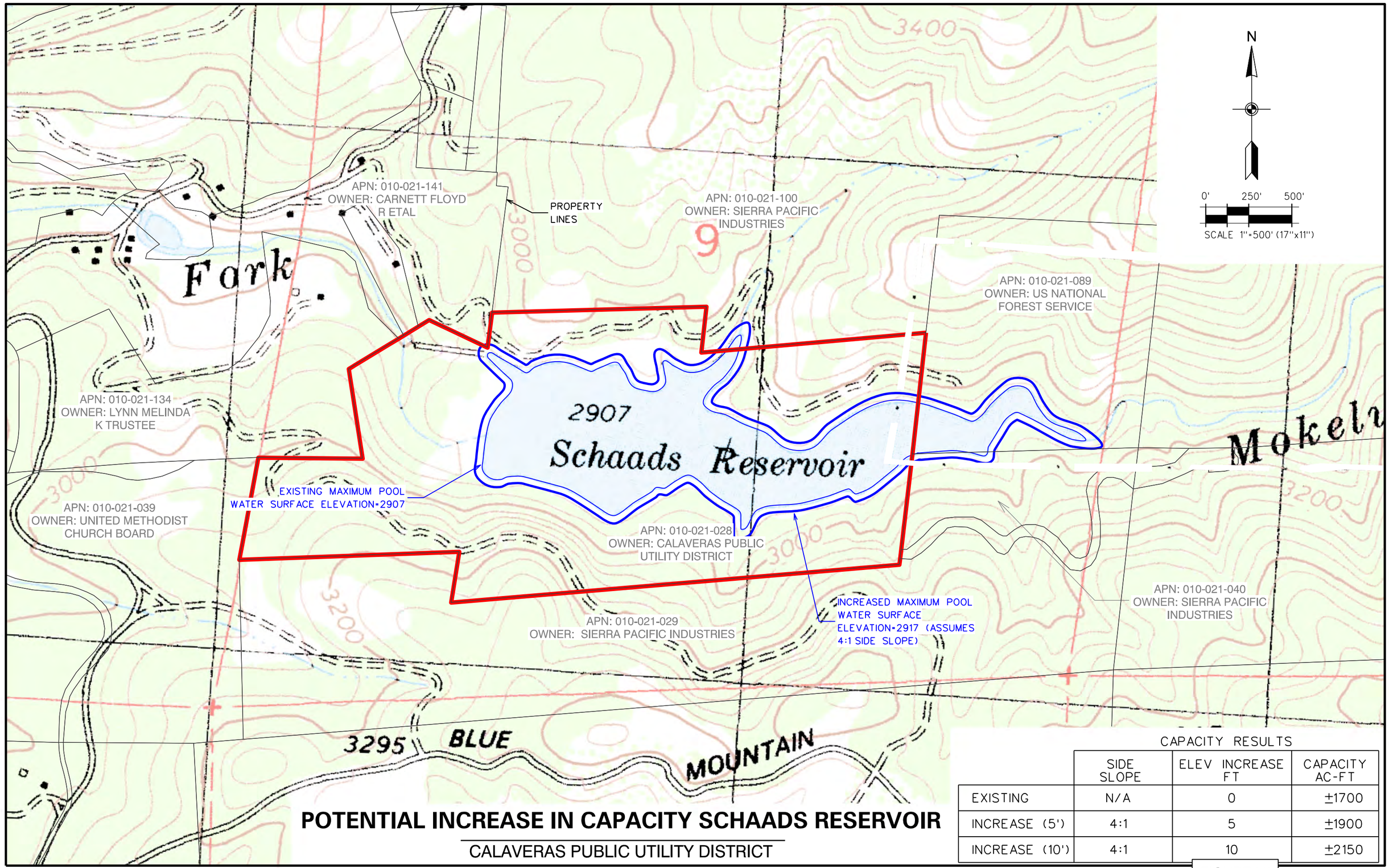
To increase the capacity of Schaads Reservoir by 250 AF will require increasing the maximum pool water surface elevation (and the heights of the dam spillway and reservoir embankment) by approximately 6 feet. The cost to increase the capacity of Schaads, not including updated easements, licensing agreements and permits, is estimated at $3.7 Million.

3.7 Forest Creek-Middle Fork Mokelumne River Reservoir

Evaluation of the region-wide Mokelumne River Long-Term Water Needs included consideration of construction of a new reservoir on the Middle Fork Mokelumne River downstream of Schaads Reservoir and downstream of the confluence with Forest Creek. This project was not ultimately evaluated as an alternative in this study. Alternative 3 of the Long-Term Needs Study suggested the construction of a 12,000-AF capacity Forest Creek-Middle Fork Reservoir without the restored / rehabilitated Wilson Dam, enlarged West Point Regulating Reservoir or expanded Schaads Reservoir. The main beneficiary as outlined in the Long-Term Water Needs Study would be CPUD to meet their forecasted demands in their service area.

The Forest Creek-Middle Fork Reservoir was first considered by CCWD in the late 1950s and has been reconfigured and reevaluated a number of times by both CCWD and CPUD. Forest Creek-Middle Fork Reservoir capacities ranging from 4300 to 18,000 AF in capacity have been considered. A reservoir with a capacity of approximately 12,000 AF and a maximum water surface elevation of 2,787 is shown in **Figure 29**. As shown, the center of the Forest Creek-Middle Fork embankment would be located approximately 350 feet downstream of the confluence of Forest Creek and the Middle Fork Mokelumne River. The reservoir pool would extend ±1.0 mile upstream along Forest Creek and approximately 1.5 miles upstream along the Middle Fork to a point approximately 600 feet downstream of Schaads Reservoir. At maximum pool, the Forest Creek-Middle Fork Reservoir would encompass approximately 180 acres. The construction cost of the 12,000-AF capacity reservoir is estimated at $19.3 million. This estimated cost does not include environmental permitting or agency approvals.

While the expansion of Schaads Reservoir and the construction of a new Forest Creek-Middle Fork Reservoir are long-term improvements that will not be considered in the shorter-term West Point Water System Master Plan, these future water storage improvements do provide solutions for meeting the long-term water needs of Calaveras County.



POTENTIAL INCREASE IN CAPACITY SCHAADS RESERVOIR

CALAVERAS PUBLIC UTILITY DISTRICT

CAPACITY RESULTS

	SIDE SLOPE	ELEV INCREASE FT	CAPACITY AC-FT
EXISTING	N/A	0	±1700
INCREASE (5')	4:1	5	±1900
INCREASE (10')	4:1	10	±2150

FIGURE 28

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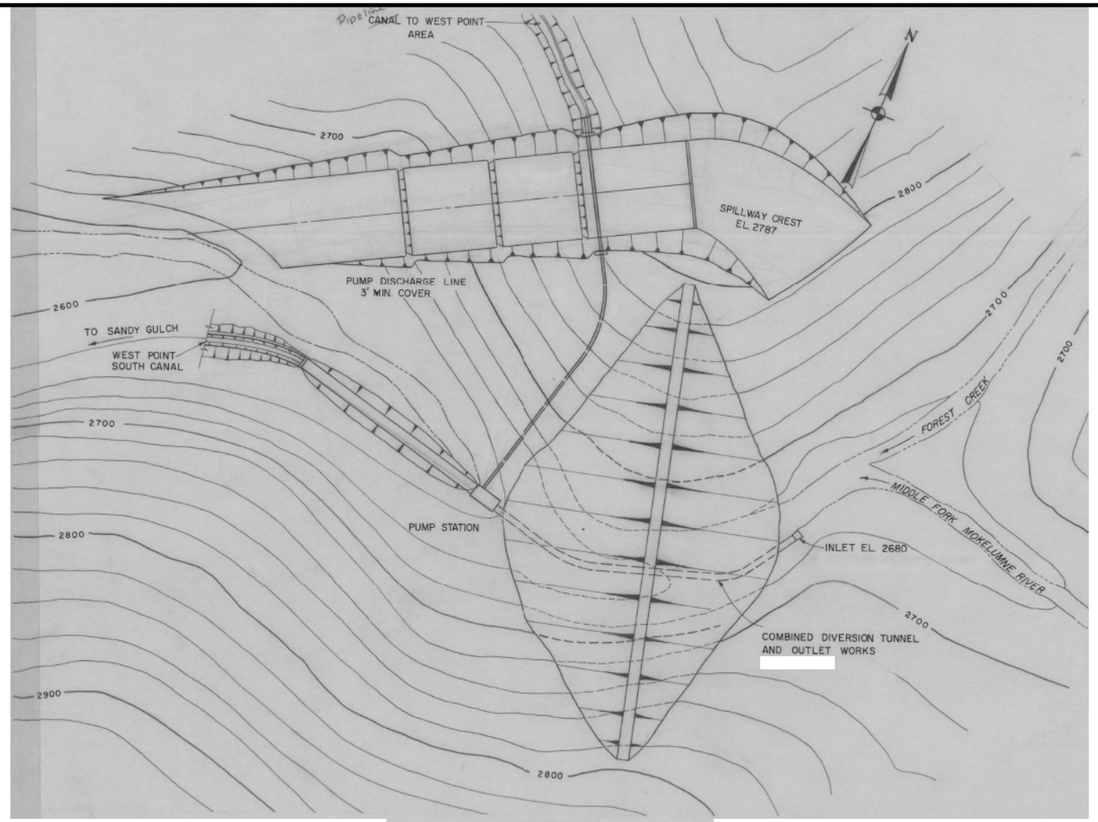
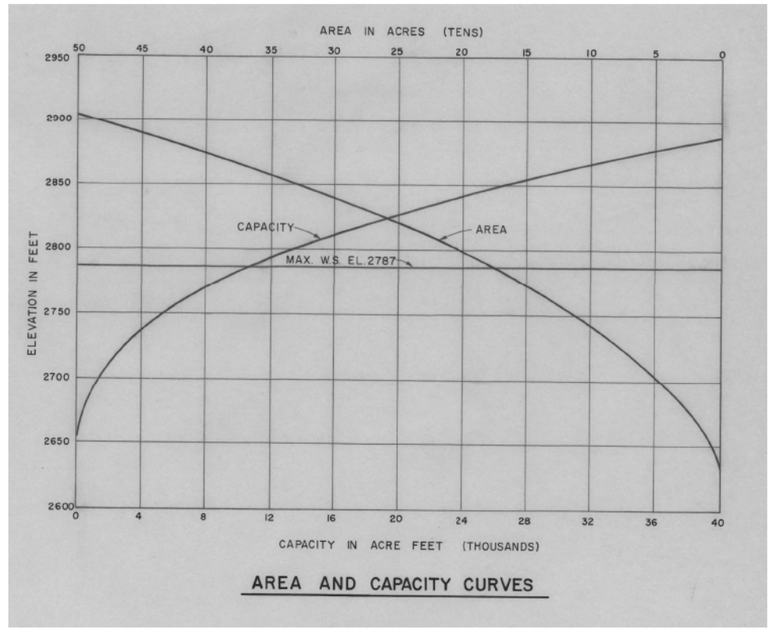


PLAN

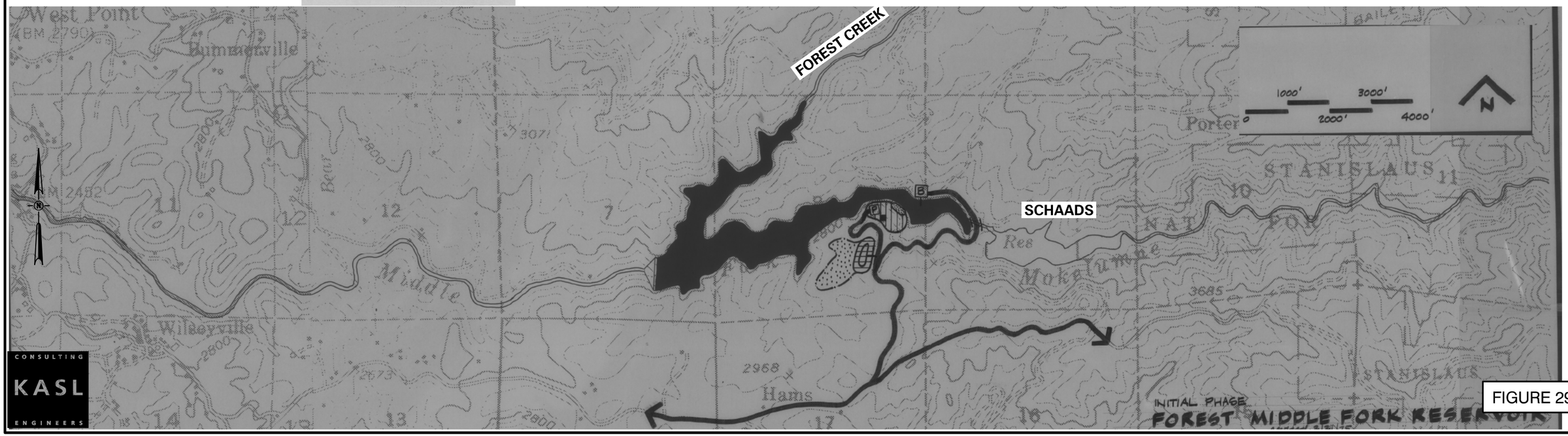
SCALE: 100 50 0 100 200 FEET

CONTOUR INTERVAL 20 FEET



AREA AND CAPACITY CURVES

CONCEPT PLAN ±12,000 AC-FOOT CAPACITY FOREST CREEK MIDDLE FORK RESERVOIR



CONSULTING KASL ENGINEERS

FIGURE 29

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4.0 EVALUATION OF WATER MASTER PLAN IMPROVEMENTS AND PRIORITIES

The purpose of this Supplemental Water System Master Plan is to recommend facilities that will improve water supply quantity and quality for the West Point Service Area. Previously prepared Master Plans and Feasibility Studies did not fully assess the limitations of the Bear Creek supply especially during seasonal dry periods and prolonged droughts. This document provides guidance to improve water supply reliability in the West Point Area.

The Calaveras County Water District has, in place, an agreement with the Calaveras Public Utility District for purchase of up to 200 AF annually of Middle Fork Mokelumne River water. This source supplements CCWD's West Point Service Area supplies provided by Bear Creek. The District's Agreement with CPUD has been in effect for a number of years and is subject to review and renewal every five years. The current contract will be up for renewal in 2021. The water supply developed by Schaads Reservoir is hydraulically disconnected from CPUD's service area. The historic Middle Fork Ditch is in disrepair and no longer used to transport water to CPUD's service areas. If constructed, the Proposed Middle Fork Ditch Pipeline could carry water supply developed by Schaads Reservoir to Jeff Davis Reservoir for treatment and delivery to CPUD customers. Until the pipeline is constructed, Schaads Reservoir can continue to reliably deliver at least 200 AF annually to the West Point Service Area.

In the Mokelumne River Long-Term Water Needs Study, ECORP projected the year 2100 annual surface water demand for the West Point Service Area at 327 AF/year. This demand is equivalent to 106.5 million gallons annually, or, on average, a daily annual average demand of approximately 292,000 gallons per day (.292 MGD). Assuming that maximum day demands could be as much as 2.5 times average annual daily demands, a projected year 2100 maximum day demand of approximately 730,000 gallons per day (.730 MGD) results. Current maximum day demands are estimated at 470,000 gpd (.470 MGD). CCWD's current agreement to purchase up to 200 AF annually of Middle Fork Mokelumne River water from CPUD would be equivalent to satisfying up to 90 days of projected year 2100 maximum day demands. Better utilization of the high quality raw water supply available from the Middle Fork Mokelumne River should be the highest priority of the West Point Water System improvements. Currently, the Middle Fork Mokelumne River intake, pump station and water supply pipeline improvements do not have the capacity to deliver existing or projected maximum day West Point Service Area demands.

Long-Term planning for the West Point water supply reliability includes consideration of the contract supply CCWD currently receives from CPUD. Results of the operations studies done in support of the Mokelumne River Long-Term Water Needs Study indicate that CPUD will need the Schaads Reservoir supplies to meet the buildout demands in their service areas. The buildout condition may require CCWD to develop a new water supply to replace the 200 AF currently supplied by CPUD from Schaads Reservoir. The water supply need could be partially mitigated by expanding Schaads reservoir to increase capacity by approximately 250 AF.

Each water supply improvement was evaluated to determine water supply benefits using the Mokelumne River operations model developed for the Mokelumne River Long Term Water Needs Study. Once the water supply benefits were determined, cost of each project was used to determine cost per acre foot of water produced. Some of the improvements were designed to maximize the use of the highest quality

Mokelumne River supply. Others were designed to improve the quality of the existing supply at Regulating Reservoir. The projects were then ranked by cost of supply, quality of supply, timing and need. The following sections discuss the priority ranking.

4.1 Cost of Supply

The intent of the improvements proposed for the West Point Water Supply system is to improve water supply, water quality or reliability. A series of operations studies were conducted using a simulation model to test the water supply benefits of each of the proposed improvements to identify the increase in yield. The simulation model mathematically runs historic unimpaired flow, sequentially from 1934 to 2016, through existing and proposed facilities on Bear Creek and the Middle Fork Mokelumne River. The historic flow provides a range of hydrologic conditions used to evaluate the performance of each facility. Yield is defined as the maximum quantity of water which can be delivered during a critically dry period. For the Mokelumne River System, the critically dry period is based upon the hydrology that occurred in 1976-1977. The 1976-1977 period is used throughout the Sierra Nevada by most operators for planning purposes because it is the driest period on record. In general, if the existing facilities with the addition of the proposed facilities can meet the anticipated demands during a period as dry as 1976-1977, there is a reasonable expectation that the water supply developed by these facilities will be sufficient to meet future anticipated demands under drought conditions. For this analysis, the proposed projects are layered on the Baseline study to determine water supply benefits. The Baseline study represents the existing facilities and existing operating criteria. Each improvement scenario is briefly described below.

1. Scenario 1: Evaluates benefits of the updated Middle Fork Pump Station. For the purposes of this evaluation, the Updated Middle Fork Pump Station includes the improved intake, pump station and pipeline to the West Point Water Treatment Plant.
2. Scenario 2: Evaluates benefits of the enlarged Regulating Reservoir.
3. Scenario 2A: Evaluates cumulative benefits of both the updated Middle Fork Pump Station (Scenario 1) and the enlarged Regulating Reservoir.
4. Scenario 3: Evaluates benefits of the enlarged Wilson Dam.
5. Scenario 3A: Evaluates cumulative benefits of the updated Middle Fork Pump Station (Scenario 1), the enlarged Regulating Reservoir (Scenario 2), and enlarged Wilson Dam.
6. Scenario 4: Evaluates Enlarged Schaads Reservoir assuming CPUD will need all of the existing Schaads Reservoir Supply to meet its own buildout demands.
7. Scenario 4A: Evaluates cumulative benefits of updated Middle Fork Pump Station (Scenario 1), the enlarged Regulating Reservoir (Scenario 2), enlarged Wilson Dam (Scenario3) and enlarged Schaads Reservoir.

Table 9, below, illustrates the projects included in each scenario.

Table 9. Scenario Descriptions for the Mokelumne River System

Facilities	Scenarios							
	Baseline	1	2	2A	3	3A	4	4A
Existing Wilson Dam	✓	✓	✓	✓			✓	
Existing Regulating Reservoir	✓	✓			✓		✓	
Existing Middle Fork Pumping Station	✓		✓		✓		✓	
Existing Schaads Reservoir	✓	✓	✓	✓	✓	✓		
Enlarged Wilson Dam					✓	✓		✓
Enlarged Regulating Reservoir			✓	✓		✓		✓
Updated Middle Fork Pumping Station		✓		✓		✓		✓
Enlarged Schaads Reservoir							✓	✓

Comparing the results of each scenario gives an indication of the water supply benefit of each project. Table 10, below, illustrates the water supply benefit by scenario. For example, comparing the Scenario 1 system yield of 316 AF to the Baseline yield of 305 AF results in an increase in system yield of 11 AF. This indicates that the proposed improvements to the Middle Fork Pump Station (Intakes, Pumps and Pipeline) would provide an 11 AF benefit to the system in a critically dry year like 1977.

Table 10. Water Supply Summary (With CPUD 200 AF Contract Supply)

Facilities	Scenarios					
	Baseline	1	2	2A	3	3A
Yield, AF	305	316	310	>327	305	>327
Years of Shortage	25	1	2	None	14	None
Average Shortage in Shortage Years, AF	6	7	8	None	6	None

Scenarios 4 and 4A assume that CPUD would need the contracted 200 AF currently reserved for CCWD for their own use and that CCWD would need the additional 250 AF of Schaads storage capacity to meet buildout demands. To evaluate the benefit of the additional Schaads reservoir storage, the No Contract Baseline was developed. The No Contract Baseline assumes that the 200 AF contracted water supply from Schaads reservoir would be used for CPUD purposes and not available to CCWD. The results of the studies are shown in Table 11, below.

Table 11. Water Supply Summary (No CPUD 200 AF Contract Supply)

Facilities	Scenarios		
	No Contract Baseline	4	4A
Yield, AF	128	247	288
Years of Shortage	66	24	1
Average Shortage in Shortage Years, AF	54	17	36

Table 12, below provides a summary of the water supply benefits by facility, both individually and cumulatively.

Table 12. Water Supply Benefits

Facilities	Water Supply Benefit, AF	Cumulative Water Supply Benefit, AF
Updated Middle Fork Pumping Station	11	11
Enlarged Regulating Reservoir	5	16
Enlarged Wilson Dam	0	16
Enlarged Schaads Reservoir	119	160

The analysis indicates that in the 1976-1977 critically dry period hydrology, Wilson, Regulating, and Schaads Reservoirs do not fill. In January of 1977, Wilson stores about 5 AF of water and releases the supply over the next few weeks. The Regulating Reservoir fills to 49 AF in Scenario 1. With scenarios 1 and 2 combined, Regulating Reservoir fills to 63 AF in part because the Middle Fork Pump Station was able to take more water earlier in the year filling the additional capacity at an enlarged Regulating Reservoir. This operation doesn't significantly increase yield; however, it allows for operational flexibility in the seasonal pattern of diversion. In a 1977 (critically dry) water year hydrology, Schaads reservoir fills to 908 AF by the end of March. This is far short of the existing storage capacity and would not make use of any additional storage. By April 1, the South Fork Pumping Plant demands are higher than Schaads inflow, resulting in an early drawdown of the reservoir. The benefits of Schaads reservoir is from the unused CCWD carryover supply from the previous year (1976) operations. This additional volume can be used to meet shortages as a result of the dry conditions of the 1977 hydrology. Table **13**, below, illustrates the construction costs of each project, water supply benefit, and the resulting Cost/Benefit ratio.

Table 13. Cost/Benefit Analysis

Project Description	Cost Estimate			Water Supply Benefit	Cost/Benefit Ratio
	Construction	Environmental	Total	(Yield - AF)	$/AF
New MFMR Pump Station	$1,529,775	$20,000	$1,549,775	11	$378,895
New intake facilities at the MFMR pump station	$184,700	$80,000	$264,700		
Replacement of MFMR pipeline from the MFMR pump station to the West Point WTP	$2,268,375	$85,000	$2,353,375		
Increase capacity of Regulating Reservoir	$2,365,025	$160,000	$2,525,025	5	$527,195
Floating Screened Outlet at Regulating Reservoir	$146,300	0	$146,300	0	N/A
Modifications to the Bear Creek Diversion	$82,950	$28.000	$110,950	0	N/A
Increase Capacity and Stability of Wilson Dam 50 AF	$2,136,750	$143,000	$2,279,750	0	N/A
Increase Capacity and Stability of Wilson Dam 40 AF	$1.234,750	$143,000	$1,377,750	0	N/A
Schaads Reservoir Expansion	$3,700,000	$1,000,000	$4,700,000	119	$39,495

The analysis performed to support the development of this water supply plan indicates Wilson Dam provides no significant improvement in water supply in the 1976-77 critical dry period and therefore is not needed to meet consumptive demands. Based on the current condition of the dam, the District should consider one of three options:

- Option 1: Rehabilitation - 50 AF Wilson Dam
- Option 2: Rehabilitation – 40 AF Wilson Dam
- Option 3: Decommission Dam and restore the meadow

These options are discussion further in **Section 4.7 Medium Term Water Master Plan Improvements**

4.2 Quality of Supply

4.2.1 Middle Fork Pump Station Improvements

Although West Point's water has always been safe to drink, there are occurrences when taste and odor problems arise, usually in the summer, when CCWD's Bear Creek water supply diminishes due to natural runoff patterns. At that time, water levels are lower in Regulating Reservoir and algae blooms in the impoundment create taste and odor problems. The contract supply from CPUD's Schaads Reservoir provides a fresh supply of water at a time when Bear Creek flows don't provide enough supply to serve the increased summer demands. Improvements to the Middle Fork Pumping Station will increase the capacity of the pump station allowing for additional supplies to be pumped up to the West Point Water Treatment Plant.

4.2.2 Regulating Reservoir Floating Intake

A floating screened intake would prevent sediment and debris from entering the headworks of the West Point WTP from the Regulating Reservoir and allow for operational flexibility to select source water in the water column for optimal treatability. With the floating inlet located near the surface outlet rather than near the bottom, the best water quality available in the Reservoir would be delivered to the West Point WTP.

4.2.3 Regulating Reservoir Expansion

The expansion of Regulating Reservoir from 50 AF to 150 AF will mitigate some of the taste and odor and other aesthetic water quality issues. Shallow Reservoirs are more susceptible to a warming of the water column resulting in algal blooms. By adding an additional 100 AF of storage, deepening the reservoir, the magnitude of the summer algal blooms should be reduced.

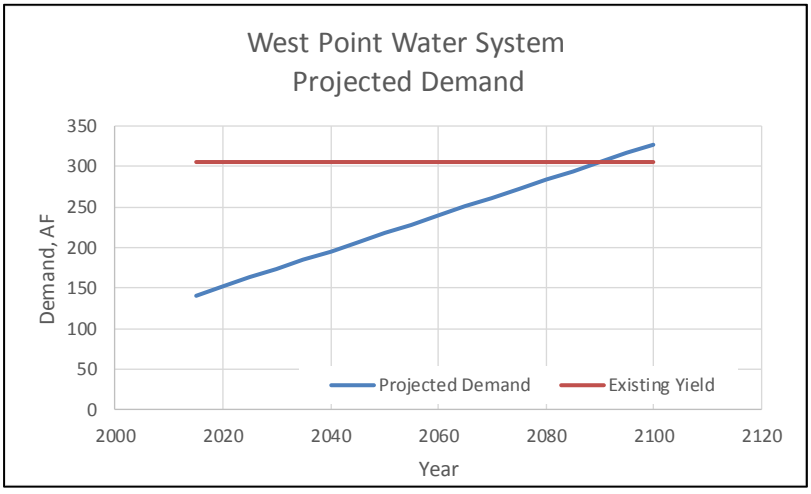
4.2.4 Schaads Reservoir Expansion

If future demands approach buildout, additional supplies from Schaads reservoir may be needed. This additional supply from Schaads would be high quality runoff from the Middle Fork Mokelumne River. Prior to diversion at the Middle Fork Pump Station, the water released from Schaads Reservoir will travel approximately 5.5 miles down the Middle Fork Mokelumne River undergoing natural aeration before being diverted at the Middle Fork Pump Station.

4.3 Need for Additional Supply

The scenarios performed for this study indicate that existing facilities and agreements will provide about 305 AF of water supply in the driest years. Demand projections for the West Point area indicate consumptive demand approaches project yield sometime around the year 2090, as shown in **Figure 30** below. CPUD future demands may change CCWD's water supply at buildout demand in the future. Until West Point demands exceed about 305 AF, CCWD has the water supply needed to deliver a full supply in every year. If CPUD demands increase to the point where the Middle Fork Ditch Pipeline is constructed, CCWD may need to consider construction of additional storage at Schaads Reservoir.

Figure 30. West Point Demand Projections



4.4 Regulatory Requirements

Although the measurement of the Bear Creek Diversion and the installation of the storage Gage at Regulating Reservoir do not provide improvement to water supply or quality, they are required by Senate Bill 88. These measurement devices will also support the annual water usage reporting required by the State Water Resources Control Board.

4.5 Project Priorities

Each of the projects have been evaluated for water supply improvements, water quality improvements, timing of need, and regulatory requirements. Table 14, below, illustrates the results of the evaluation and provides a ranking of the benefit and need of each project. A total score was calculated by adding the rankings. Project priorities were determined by ranking the scores from lowest to highest.

Table 14. Project Ranking

Project	Raw Cost Rank	Water Supply Cost/Benefit	Water Quality Benefit	Regulatory Requirement (If any)	Timing of Need	Total Score	Priority
New MFMR Pump Station	6	2	1	N/A	3	11	3
New intake facilities at the MFMR pump station							
Replacement of MFMR pipeline from the MFMR pump station to the West Point WTP							
Increase capacity of Regulating Reservoir	5	3	3	N/A	4	15	4
Floating Screened Outlet at Regulating Reservoir	2	N/A	2	N/A	2	6	2
Modifications to the Bear Creek Diversion (Gaging)	1	N/A	N/A	1	1	3	1
Increase Capacity and Stability of Wilson Dam 50 AF	4	4	5	N/A	6	19	7
Increase Capacity and Stability of Wilson Dam 40 AF	3	4	5	N/A	6	18	6
Schaads Reservoir Expansion	7	1	4	N/A	5	17	5

4.6 Highest Priority Short-Term Master Plan Improvements

The highest priority, most immediately needed, West Point Water System Master Plan improvements include:

- Construction of new Middle Fork Mokelumne River (MFMR) Intake System
- Replacement of the existing MFMR Pump Station
- Replacement of the existing MFMR Pump Station to West Point Water Treatment Plant Water Supply Pipeline
- Construction of New West Point Regulating Reservoir Floating, Screened Outlet
- West Point Regulating Reservoir Staff Gauge and Bear Creek Discharge Meter

- Redundant West Point Water Treatment Plant Capacity
- Bummerville Water Distribution Improvements

It is recommended that these improvements be planned, designed, funded and constructed during the next 10 years (2019-2029). Administrative and permitting tasks, engineering design and capital improvement program elements proposed for each of the above listed, short-term, highest priority master plan improvements are discussed herein.

4.6.1 Middle Fork Mokelumne River (MFMR) Intake and Pump Station and Supply Pipeline Improvements

Construction of the MFMR intake, pump station and supply pipeline improvements could be phased but engineering planning, design and environmental documents should be prepared together for these Master Plan elements and initiated as soon as possible. The surface collection facilities which feed the existing pump station were damaged and partially removed during the winter of 2016-2017. These facilities were reinstalled with FEMA funds in July 2018. Alternative long-term surface collector and "in channel" collection facilities, as previously presented in this Master Plan, should be reviewed with CCWD Engineering Staff and then modified or expanded as appropriate.

The Preliminary Plans prepared for the new Middle Fork Pump Station and shown in Section 3.0 of this Master Plan were approved, in concept, by CCWD Engineering Department staff. There is sufficient information included in these preliminary plans to evaluate the potential environmental impacts of the MFMR Pump Station improvements. Similarly, alternative water supply alignments from the MFMR Pump Station to the West Point WTP were evaluated as part of this Master Plan Report. The alignment selected is the same as existing and no additional easements will be required to construct the new pipeline. The alignment selected follows existing road rights and way and CCWD easements. There is sufficient information provided in this Master Plan to evaluate the potential environmental impacts of the water supply pipeline improvements.

Construction of redundant water treatment plant improvements at West Point can be completed with little or no disturbance to surrounding CCWD property and could be permitted with the filing of a Notice of Exemption. It is intended that the redundant WTP facilities strictly serve as a backup and not provide additional capacity or expand the West Point treated water service area.

The Bummerville water distribution improvements discussed in this Supplemental Master Plan were previously described in the West Point / Wilseyville / Bummerville System Improvements Final Feasibility Report and in the 2005 Master Plan. Environmental documents were previously certified for these improvements and may only require updating to permit remaining distribution improvements to be constructed.

The suggested sequence of highest priority, short-term, MFMR Master Plan improvements follows. This suggested schedule is intended to provide ongoing operation of the existing MFMR supply during the most critical (hottest) summer months when supplies from Bear Creek are expected to be at their lowest levels.

Master Plan Year 1-2

- Obtain CCWD approval of West Point Supplemental Water System Master Plan.
- Complete preliminary design of permanent MFMR pump station intake facilities and obtain concept approval by CCWD.
- CCWD to request proposals from qualified environmental consultants to prepare an environmental document for MFMR Intake, Pump Station and Water Supply Pipeline to West Point WTP.
- CCWD selects environmental consultant; environmental field investigations are initiated.
- Preparation of MFMR Intake, Pump Station and Water Supply Pipeline Environmental Document. It is anticipated that an Initial Study/ Mitigated Negative Declaration would include sufficient impact mitigation and environmental safeguards to satisfy environmental regulations.
- CCWD receives proposals for engineering design of MFMR Pump Station to West Point WTP supply pipeline improvements.
- CCWD receives proposal for engineering design of redundant West Point WTP improvements.

Year 3-4

- Design of MFMR supply pipeline improvements is completed. Contract Documents are approved by CCWD and ready to bid.
- Design of redundant West Point WTP improvements is completed.
- CCWD applies to California Department of Fish and Wildlife for new MFMR intake facilities.
- MFMR Supply Pipeline Project Bid Period and Approval to Award to lowest responsive, responsible bidder.
- Redundant West point WTP Improvements are Bid and Approval to Award to lowest responsible bidder.

Year 5-6

- Notice to Proceed issued to Selected MFMR Contractor.
- Notice to Proceed issued to redundant West Point WTP Contractor.
- Pipeline and WTP Contractors submits shop drawings, receives approvals, orders materials.
- CCWD obtains permit to construct new, permanent, MFMR intake facilities.

- Pipeline improvements are constructed, existing pump station is connected to new pipeline during interim until new pump station improvements are designed and constructed.
- Redundant West Point WTP improvements are constructed.

- CCWD receives proposals for engineering design of MFMR intake and pump station improvements.
- CCWD receive proposals for engineering design of Bummerville Water Distribution System Improvements.

- Design of pump station intake and pump station improvements is completed. Contract Documents are approved by CCWD and ready to bid.

- MFMR intake and pump station construction bids received and Approval to Award to lowest responsive, responsible bidder.

Year 7-8

- Notice to Proceed issued to selected MFMR intake and pump station Contractor.
- Design of remaining Bummerville Water System Distribution improvements is completed.

- Pump Station Contractor submits shop drawings, receives shop drawing approvals and orders pump station equipment.

Year 9-10

- Pump Station intake and Pump Station improvements are constructed. Contractor is required to provide temporary pumping equipment to deliver MFMR flows to the West Point WTP while the MFMR pump station is under construction.
- Remaining Bummerville Water Distribution Improvements are completed.

With the above sequence, the new MFMR Pump Station Intake, Pump Station and Water Supply Pipeline facilities, the redundant West Point WTP and the remaining Bummerville water distribution system improvements are complete and on line by 2029. During the initial 10-year Master Plan period, MFMR supplies would continue to be supplied to the West Point WTP, as needed during low flow Bear Creek periods, using first, temporary, then, interim and then, completed, MFMR intake, pump station and pipeline improvements.

4.6.2 West Point Regulating Reservoir Outlet Pipe and Staff Gauge; Bear River Flow Meter

Coincident with improving Middle Fork Mokelumne River water supplies, improvements at the West Point Regulating Reservoir should be conducted in the short-term as a high priority to improve the quality of water delivered from the West Point Regulating Reservoir to the West Point WTP. Modification to the Regulating Reservoir outlet with placement of a floating screen would benefit the operations of the West Point WTP delivering the best water quality available in the Regulating Reservoir. The floating, screened,

outlet would collect water in the reservoir with the highest available dissolved oxygen and the lowest levels of total suspended solids. While the West Point WTP is capable of treating raw water with a wide range of constituents, optimum plant performance will be achieved when the WTP is supplied the best raw water available. Outlet screen backflushing would be available from the connection to the Middle Fork Mokelumne River pumped supply.

Recommended West Point Water Master Plan improvements include expansion of the Regulating Reservoir. The Regulating Reservoir expansion is suggested as an intermediate term or "mid-level priority" improvement. While not the highest priority, planning and preliminary design of the Regulating Reservoir expansion must be conducted in the short-term to properly design and implement the floating, screened, outlet pipe modifications.

Other, relatively low cost but high priority master plan improvements include placement of a reservoir staff gauge to monitor the water surface levels and available volume in the Regulating Reservoir. A water surface elevation to volume curve would be developed to provide the WTP operators with a quick checkpoint of reservoir operating conditions. It is further recommended that a pressure sensor be placed on the Regulating Reservoir outlet pipe. Static pressures available in the outlet pipe could be converted to reservoir levels based on the relative difference in elevation between the outlet pipe and the Regulating Reservoir water surface. The outlet pipe pressures / Regulating Reservoir water surface elevation could then be transmitted, via radio signal, to the West Point WTP.

Monitoring of Bear Creek influent supplies to the Regulating Reservoir is proposed using a critical flow device. Raw water entering the West Point WTP is metered. Middle Fork Mokelumne River water pumped to the West Point WTP is metered. While, in large part, the net difference between the flow entering the WTP and the flow leaving the Middle Fork Mokelumne River pump station is water delivered from Bear Creek supplies, this approach does not take into account supplies that back flow into the Regulating Reservoir from the MFMR supply pipeline and do not account for "sidewater" that drains into the Regulating Reservoir. Per Senate Bill 88, the District is required to provide to the State Water Resources Control Board an accurate, annual accounting of Bear Creek water diverted to the Bear Creek pipeline and discharged to the West Point Regulating Reservoir. Replacement of flow monitoring and flow transmitting equipment at the existing Bear River diversion structure is proposed.

The sequence for completing the planning, environmental, design and construction of the highest priority Regulating Reservoir improvements is outlined herein. Preliminary design level plans for expansion of the Regulating Reservoir to 150 AF should be prepared sufficient to obtain concurrence from CCWD regarding the maximum water surface elevation, reservoir footprint, reservoir embankment design and appurtenances needed to increase capacity. The Regulating Reservoir operates under a DSOD permit. Preliminary expansion plans should be reviewed with DSOD before final plans are prepared. An environmental document will be required for the Regulating Reservoir expansion and new Regulating Reservoir outlet improvements. Modifications to the existing reservoir outlet is within the area of DSOD jurisdiction and are subject to review and approval by DSOD.

The suggested schedule to plan, permit, design and construct, short-term, highest priority Regulating Reservoir improvements follows:

Year 1-2

- Obtain approval of West Point Water Master Plan.
- Prepare preliminary design of West Point Regulating Reservoir expansion plans.
- CCWD requests proposals from qualified environmental consultants to prepare environmental document for West Point Regulating Reservoir Expansion, Regulating Reservoir Outlet and Gauge Facilities and Bear Creek Flow Meter.
- CCWD selects environmental consultant; environmental field investigations are initiated.
- Preparation of Regulating Reservoir Expansion, Outlet Structure, Gauge Facilities, Bear Creek Flow Meter environmental document.
  It is anticipated that an Initial Study / Mitigated Negative Declaration would provide sufficient impact mitigation and environmental safeguards to satisfy environmental regulations.

Year 3-4

- CCWD receives proposals for engineering design of outlet, gauge and flow meter improvements.
- Outlet, gauge and flow meter improvement plans designed and approved by CCWD.
- Outlet modifications permitted by DSOD.
- Outlet, gauge and flow meter Project Bid period. Approval to Award to lowest, responsive, responsible bidder.
- Notice to Proceed: Construction begins mid-October during low Bear Creek flow periods and low Regulating Reservoir storage levels; Temporary Reservoir bypass improvements constructed as needed.
- Outlet, gauge, flow meter improvements are complete.

The above sequence does not include final design permitting or construction of the Regulating Reservoir expansion. It is proposed that these improvements be deferred to the recommended Medium Term Master Plan Improvements.

A summary schedule of the highest priority West Point Water Master Plan Improvements is presented in **Figure 31.**

WEST POINT WATER MASTER PLAN
PROPOSED SCHEDULE OF HIGHEST PRIORITY MASTER PLAN IMPROVEMENTS
(2019-2029)

MASTER PLAN ELEMENTS	YEAR 1-2	YEAR 3-4	YEAR 5-6	YEAR 7-10
MFMR INTAKE FACILITIES				
PLANNING/PERMITTING				
ENVIRONMENTAL				
DESIGN				
CONSTRUCTION				
MFMR PUMP STATION				
PLANNING				
ENVIRONMENTAL				
DESIGN				
CONSTRUCTION				
MFMR SUPPLY PIPELINE				
PLANNING				
ENVIRONMENTAL				
DESIGN				
CONSTRUCTION				
WEST POINT REGULATING RESERVOIR				
PLANNING				
ENVIRONMENTAL				
DESIGN				
CONSTRUCTION (1)				
REGULATING RESERVOIR OUTLET SCREEN & GAUGE				
PLANNING/PERMITTING				
ENVIRONMENTAL				
DESIGN				
CONSTRUCTION				
REDUNDANT WEST POINT WTP				
PLANNING/PERMITTING				
ENVIRONMENTAL				
DESIGN				
CONSTRUCTION				
BUMMERVILLE WATER DISTRIBUTION IMPROVEMENTS				
PLANNING/PERMITTING (2)				
ENVIRONMENTAL (2)				
DESIGN				
CONSTRUCTION				

(1) CONSTRUCTION OF REGULATING RESERVOIR PLANNED FOR MEDIUM TERM,(10–20 YEAR PERIOD 2029–2039)

(2) COMPLETED WITH 2004/2005 REPORTS AND MASTER PLAN

FIGUR E3I

FILE: S:\2517-01 West Point, Mokelumne River\Study A - West Point Water System\Master Plan\Figure\Fig_30 11x17.dgn
DATE: 10/24/2018

4.7 Medium Term Water Master Plan Improvements

The focus of the proposed "medium term" West Point Water Master Plan improvements is expansion of storage for the Bear Creek supply. These facilities are described in Section 2.0 of this Master Plan and include increasing the capacity of the West Point Regulating Reservoir to 150 AF and decommissioning of Wilson Dam. As mentioned in **Section 4.1 Cost of Supply**, study results developed as part of this Supplemental West Point Water System Master Plan indicate that different configurations of Wilson Dam provide no additional water supply in dry years. Three options for Wilson Dam are provided later in this section for District consideration. Medium term improvements are those warranted for construction 10 to 20 years hence or for the period ranging from year 2029 to 2039. Typically, these improvements are costlier and will require more extensive environmental and permitting than the short-term highest priority improvements previously itemized.

In the Calaveras County Mokelumne River Long-Term Water Needs Study, ECORP projected that, during the next 20-year period, annual runoff volumes in the Project area should be expected to decrease with a shift in runoff patterns. Peak runoff is more likely to occur in February or March rather than in March or April. To adequately capture and store this reduced runoff for beneficial use within the West Point Service Area will require additional storage.

The expansion of the Regulating Reservoir will require an amended permit (license) from Division of Safety of Dams. Decommissioning Wilson Dam and meadow restoration will require cooperation with Sierra Pacific Industries. Updated or new permits from the Division of Safety of Dams, California Department of Fish and Wildlife, Regional Water Quality Control Board and U.S. Army Corp of Engineers will be required.

The estimated cost to expand the West Point Regulating Reservoir (in current dollars) is $2,365,025. This cost includes estimated Project construction, planning, design, permitting and environmental costs.

The analysis performed to support the development of this water supply plan indicates Wilson Dam provides no significant improvement in water supply in the 1976-77 critical dry period hydrology and therefore is not needed to meet consumptive demands. Based on the current condition of the dam, the District should consider the following options discussed below.

Option 1: Rehabilitation - 50 AF Wilson Dam

Historical information about Wilson Dam, indicated it had a capacity of 45–50 AF. As discussed in Section 4.1. *Cost of Supply*, Wilson Dam provides no significant increase in water supply. Rehabilitating the dam may provide recreational opportunities in some years. Preliminary design work completed by KASL Engineers indicates that restoring the dam to a 50 AF capacity would inundate Winton Road. Rehabilitation would include raising the road to provide the necessary freeboard for safe passage.

The estimated cost to deconstruct, remove, and replace the existing Wilson Dam with a facility that will provide 50 AF of capacity is estimated at $2,136,750. This cost includes estimated construction, planning, design, agency permitting and estimated administrative and legal costs but does not include the estimated cost to amend the operating permit with Sierra Pacific Industries or, alternatively, to purchase the site. These costs are unknown at this time.

Option 2: Rehabilitation - 40 AF Wilson Dam

After discovering that restoring Wilson Dam and reservoir to 50 AF would inundate Winton Road, KASL Engineers revised the design. A second preliminary design was created, resulting in the largest dam that would not inundate Winton Road. The second design resulted in a reservoir that could impound 40 AF. The design analysis indicates that a 40 AF Wilson Dam and reservoir was most likely the original size.

Option 3: Decommissioning Dam / Meadow Restoration

For several years, CCWD staff have considered various options for conservation of water from Bear Creek at Lili Gap. In 2015, Pat McGreevy, with contributions from Bob Dean and Steve Wilensky, conducted a detailed study exploring various options. The study considers a comprehensive restoration of the Bear Creek area including Lili Riparian and Bald Mountain Riparian Corridors. The project includes removal or thinning of invading conifers to maintain meadow area and reduce evapotranspiration, elevating creek bed so water spills onto floodplain, and removal of surface and ladder fuels to minimize risk of catastrophic fire.

Lili Gap Project - Planning, Design and Permitting

Plumas Corporation was contacted by Pat McGreevy to request a cost estimate to provide survey data collection, analysis and restoration design for the meadow and riparian corridors along the Bald Mountain and Bear Creek drainages. Additional budget amounts include botany, wildlife and archaeology surveys to satisfy CEQA and NEPA. The project will require a CDFW 1600 permit, Army Corps of Engineers 404 review under NWP 27 authority, Regional Water Board 401 certification. If USFS participates, they will also require a NEPA review decision process. Planning, permitting, design and implementation is estimated to cost approximately $207,600.

Table 15, below, summarizes the costs and water supply benefits of the proposed Wilson Dam and Reservoir treatment options.

Table 15. Wilson Dam and Reservoir Treatment

Project Description	Cost Estimate			Water Supply Benefit (Yield - AF)	Priority
	Construction	Environmental	Total		
Wilson Dam Rehabilitation 50 AF	$2,136,750	$143,000	$2,279,750	0	3
Wilson Dam Rehabilitation 40 AF	$1.234,750	$143,000	$1,377,750	0	2
Bear Creek Restoration	$170,000	$37,600	$207,600	0	1

Based on the analysis of the proposed options, decommissioning Wilson Dam and performing the Bear Creek meadow restoration is the recommended approach. Since none of the Wilson Dam rehabilitation options provide a water supply benefit, the most cost-effective approach is to decommission the dam and reservoir and restore the area to a meadow and flood plain. The resulting restoration could potentially improve water quality through natural processes.

4.8 Long-Term Master Plan Improvements

Long-term surface water needs for the West Point Service Area are estimated in the Long-Term Water Needs Study at 327 AF. The District's current agreement with CPUD to purchase up to 200 AF annually from

the Middle Fork Mokelumne River (MFMR) combined with the District's right to divert up to 4 cfs and 150 AF or storage from Bear Creek would meet this requirement, except for the driest years. Future adjustments to the agreement to purchase MFMR water from CCWD may occur, especially if CCWD and CPUD can develop, jointly, MFMR storage improvements with the expansion of Schaads Reservoir or construction of the Forest Creek-Middle Fork Reservoir.

These relatively high cost improvements are long-term and will require extensive permitting but are reasonable solutions to meeting long-term water demands. The time line for long-term Master Plan improvements is estimated at 20 to 50 years (2038 to 2068) but long-term planning will be required to allow implementation.

The cost to expand Schaads Reservoir to provide an additional 250 AF of capacity is estimated (in current dollars) at $3.7 Million. This cost includes estimated Project construction, planning and design. Long-term permitting and environmental costs are estimated at $1,000,000. The Schaads expansion will affect U.S. Forest Service land. A combined CEQA / NEPA environmental document will be required.

Evaluation of the long-term demands projected from the West Point Water Service Area and the storage / supply provided by the Schaads Reservoir expansion was also completed (ECORP). As shown in Table 13 Project Priorities, the Schaads Reservoir Expansion would result in an additional yield of 119 AF.

The cost to construct a new Forest Creek-Middle Fork Reservoir that will provide 12,000 AF of storage capacity is estimated at (in current dollars) $19.3 Million. This cost includes estimated construction, planning and design costs. Future environmental and permitting costs that would address these improvements are unknown at this time. The Forest Creek-Middle Fork reservoir could provide additional supply to the West Point area; however, construction of this facility is only recommended as a regional supply alternative. In most years, the Schaads Reservoir and Regulator Reservoir expansions plus existing supplies would provide enough water supply to meet anticipated demands in most years. Our yield studies indicate that a shortage would only occur during the driest year on record. During the 1976-77 critical period hydrology a portion of the water supply at the expanded Schaads Reservoir would be used in 1976. A carryover storage supply at Schaads Reservoir along with the Bear Creek supply would provide about 288 AF. The 39 AF deficit is equivalent to about 12% of the total buildout demand. Development of a conservation policy during dry years could further ease the impacts of the shortage by spreading it over two years.

Agenda Item

DATE: November 14, 2018

TO: Jeffery Meyer, Interim General Manager

FROM: Robert Creamer, Engineering Analyst

SUBJECT: Discussion/Action on Division 5 / Valley Springs Declaration of Surplus Property APN 074-008-001

RECOMMENDED ACTION:

Motion:_____/_____ to adopt Resolution No. 2018-____ declaring APN 074-008-001 (2532 Huckleberry Lane, Valley Springs), CCWD property to be surplused.

SUMMARY:

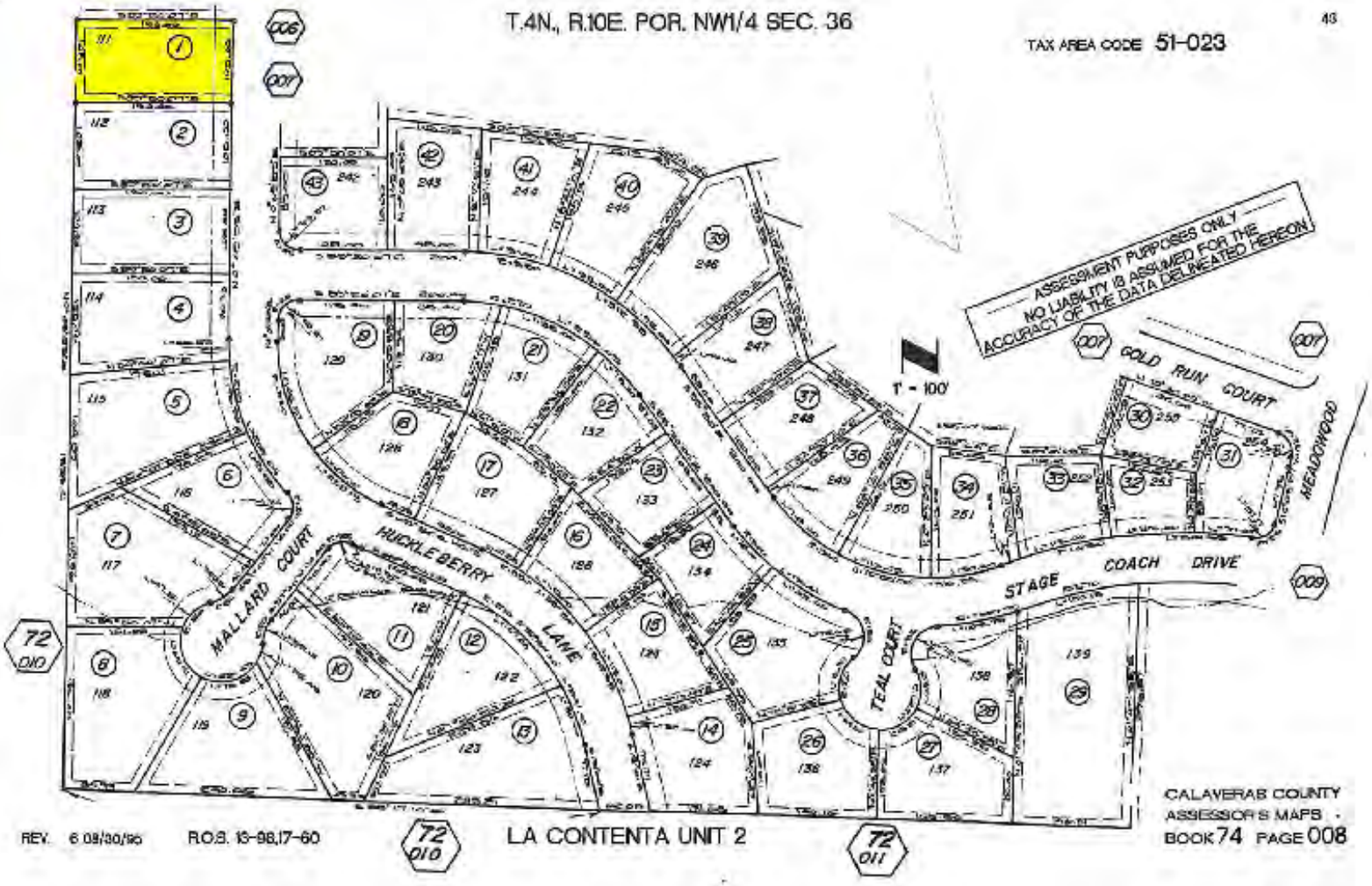
The Board had this parcel presented as a possible surplus property at the September 12, 2018 meeting. Staff has further reviewed the parcel and now requests a notice to surplus and dispose of this real property in the Valley Springs area. The property is not currently used nor planned for future District use. Attached is a map showing the location of APN 074-008-001 in the Valley Springs area.

The District follows procedures set forth in California Government Code Section 54220 et seq. for disposition of land by a local agency. Board Financial Policy 5.10 follows the Government Code. The property noted is greater than 5,000 sq. ft. in area and therefore required by code to be offered to local agencies for possible low or moderate income housing or recreational opportunities for a period of 60 days after being declared surplus. Absent local agency interest during that period, surplus property may be sold at fair market value to interested private parties utilizing a licensed real estate agent who has offices in Calaveras County.

FINANCIAL CONSIDERATIONS:

Possible sale of property to public or private purchasers.

Attachments: *Attachment A – APN Map*
Resolution Declaring Property Surplus



Attachment A

APN 074-008-001 - 2532 Huckleberry Lane

RESOLUTION NO. 2018 –

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

DECLARING THAT PROPERTY APN 074-008-001 IS SURPLUS TO DISTRICT USE

WHEREAS, pursuant to California Water Code Section 31041 the Calaveras County Water District may hold and dispose of real property; and

WHEREAS, the District follows the procedures set forth in California Government Code Sections 54220 et seq., when surplus land is made available for disposal; and

WHEREAS, the Board of Directors of the Calaveras County Water District has considered the information provided by staff and recommendations regarding use of the above named District property.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Directors of Calaveras County Water District that the parcel identified as: APN 074-008-001, 2532 Huckleberry Lane, Valley Springs, will no longer be necessary for District use and is hereby declared to be surplus land.

BE IT FURTHER RESOLVED that said lands shall be disposed of in accordance with the District's Surplus Land policy.

BE IT FURTHER RESOLVED that the General Manager is hereby authorized to execute any documentation necessary to expedite sale of said declared surplus property.

PASSED AND ADOPTED this 14th day of November, 2018 by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

CALAVERAS COUNTY WATER DISTRICT

_____
Scott Ratterman, President
Board of Directors

/
/
/

ATTEST:

_____
Rebecca Hitchcock
Clerk to the Board

Agenda Item

DATE: November 14, 2018

TO: Jeffrey Meyer, Interim General Manager

FROM: Peter Martin, Manager of Water Resources

SUBJECT: Update on Local Forest Management Initiatives

RECOMMENDED ACTION:

Informational update only. No action requested at this time.

SUMMARY:

The Board has requested an update on local forest management initiatives and projects of importance to the region. Mr. Pat McGreevy, a founding member of the Calaveras-Amador Forestry Team will be in attendance to provide an update and presentation on proposed fuels management projects of significance to Calaveras County that include the targeted protection of CCWD operated facilities and properties. The Board will also receive a brief update on fuel thinning and fire risk reduction projects being implemented by the Upper Mokelumne River Watershed Authority through the Master Stewardship Agreements with the US Forest Service and the Bureau of Land Management.

FINANCIAL CONSIDERATIONS:

None.

Agenda Item

DATE: November 14, 2018

TO: Jeffrey Meyer, Interim General Manager

FROM: Joel Metzger, Manager of External Affairs, Conservation & Grants

RE: Discussion/Direction Regarding Customer Assistance Program

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RECOMMENDED ACTION:

Discussion/Direction regarding development of a Customer Assistance Program Policy.

SUMMARY:

On October 12, 2018, the Board of Directors held a public workshop to discuss the creation of a Customer Assistance Program, which would provide low-income water and wastewater customers with a credit on their bimonthly bills. At the conclusion of the workshop, the Board provided feedback and instructed staff to write a draft policy for the proposed Customer Assistance Program (attached).

After receiving comments and direction from the Board, the draft policy may be submitted to the Finance Committee for further review on Monday November 19. Staff will present the proposed Customer Assistance Program policy to the Board for adoption in December.

FINANCIAL CONSIDERATIONS:

None at this time

Attachments: *Customer Assistance Program Policy*
CCWD CAP Application
2017 DHHS Federal Poverty Guideline
PG&E CARE Program

Calaveras County Water District

Calaveras County Water District's (CCWD) Customer Assistance Program (CAP) provides an opportunity for a limited number of low-income customers who utilize the District's water and wastewater services to apply for financial assistance. The Calaveras County Resource Connection Food Bank (The Resource Connection) is partnering with CCWD to administer this program.

Policy framework

21.1 CAP Credit

21.2 Program Year

21.3 Program Funding

21.4 General Eligibility Requirements

21.5 Income Eligibility Requirements

21.6 Applications

21.7 Participant Eligibility Verification

21.8 Change of Eligibility Status

21.9 Disputes

21.10 Program Modifications

21.1 CAP Credit: The CAP credit is set at $20 per bill (six bills per year), per qualifying water customer for up to 100 customers per fiscal year and $30 per bill (six bills per year), per qualifying wastewater customer for up to 100 customers per fiscal year. Customers who receive water and wastewater service may apply for both available credits. CCWD will apply credits to qualifying customers' accounts on a bimonthly basis.

21.2 Program Year: The program will run on the fiscal year, from July 1 through June 30 of the following year. Funds will be distributed to eligible customers on a first-come, first served basis, until program revenues for the fiscal year are depleted or the maximum number of customers has been reached.

21.3 Program Funding: The program will be funded using only the following sources of non-rate revenue:

- General property taxes
- New property leases

- Community contributions

The cost of the program is not to exceed $30,000 annually. The CCWD Board of Directors will approve the CAP credit amount and funding source as part of the annual budget process.

21.4 General Eligibility Requirements:

21.3.1 The applicant must live at the property where assistance is being requested for more than half the program year (this program is not designed for second home owners)

21.3.2 The applicant must either be the property owner, or have the property owner's permission to apply for assistance

21.3.3 The applicant must submit a valid application and provide a copy of a current PG&E bill showing participation in the PG&E CARE Program, or provide required documentation verifying a household income of at or below 200% of the federal poverty guidelines

21.3.4 The applicant's account must be in good standing with CCWD, meaning the account is not currently locked off for nonpayment.

21.5 Income Eligibility Requirements: The income eligibility level shall be established at 200% of the Department of Health and Human Services (HHS) federal poverty in effect at the beginning of the program year.

21.6 Applications: Applications must be filled out, signed and submitted to The Resource Connection, along with proof of participation in the PG&E CARE Program (which is available to those at or below 200% of the federal poverty guideline) and any additional documentation requested to establish income eligibility.

21.7 Participant Eligibility Verification: All existing program participants are required to keep their CCWD accounts in good standing and reapply for the program each year between April 1 and May 31 in order to continue receiving financial assistance. Program participants must submit a new application and proof of participation in the PG&E CARE Program, such as a current bill. If a PG&E bill is not available, The Resource Connection may ask for additional information to verify that the applicant's income is at or below 200% of the federal poverty guideline. If a program participant does not verify eligibility by May 31, they will be removed from CCWD's CAP.

21.8 Change of Eligibility Status: Customers who are receiving financial assistance must notify The Resource Connection if their household no longer qualifies for the CAP, at which time financial assistance will be discontinued. Failure to notify The Resource Connection when a household no longer meets the qualifications for the program will result in the customer's

permanent removal from CAP eligibility and revocation of any credits received during the current program year, which would become immediately due and payable.

Customers enrolled in the program who provided incorrect information in the determination of their eligibility may be permanently removed from the program. All credits previously given to these customers may be revoked and become immediately due and payable. Failure to make restitution for the amounts prescribed in this section may subject the customer to CCWD collection procedures as set forth in the Rules and Regulations Governing the Furnishing of Water and/or Wastewater Service, as amended from time to time.

Should the customer's CCWD service be disconnected for non-payment, the customer's account will be removed from the assistance program and the customer will be ineligible to reapply for low-income assistance on any property served by the District for twelve (12) months from the date of disconnection. Customers may reapply only if there are no additional disconnections in the customer's service during that 12-month period.

21.9 Disputes: The CCWD General Manager is authorized to resolve in his or her sole discretion any disputes or claims that may arise from the administration of this program.

21.10 Program Modifications: The District's CAP is established at the discretion of the CCWD Board of Directors. The implementation of an assistance program does not create or confer an entitlement to continued assistance. The CAP is subject to the availability of authorized funds for the program. If the Board determines there are insufficient funds for the program, or changes to the program are desired, it may modify or terminate the program.

CALAVERAS COUNTY WATER DISTRICT

120 Toma Court • PO Box 608 • San Andreas, CA 95249 • Main line (209) 754-3543

Application for CCWD Water & Wastewater Customer Assistance Program

Customer Information *(please print clearly)* **Application Type**: ☐ New ☐ Renewal

Name on Account: _____ Account Number: _____

Service Address: _____

Mailing Address: _____

Phone Number: _____ Email Address: _____

Requested By: ☐Owner ☐ Tenant

Credit Requested: ☐$20 Water ☐ $30 Wastewater ☐$50 for both water & wastewater

Number of People in Household: Adults_____ Children_____

If you are not the owner of the property receiving CCWD service, you must have the property owner's written permission to apply for this program. If you are the owner, disregard this.

I (print name) _____ give (print name) _____ permission to apply for CCWD's Customer Assistance Program.

Property Owner Signature: _____ Date: _____

Declaration Signature

- I have included a copy of my current PG&E bill in my name reflecting the same address in which I receive water or wastewater service from CCWD.
- I agree to notify CCWD if I no longer qualify to receive assistance through the PG&E CARE Program. Should I fail to do so, I understand that I may be back-billed for the discounted rate I received and will be ineligible to reapply for the program.
- I agree to keep my CCWD account contact information up to date and in good standing. I understand that should my service be disconnected for non-payment, I will be removed from the program and will be ineligible to reapply for 12 months.
- I understand that I must reapply for the program every year between April 1 and May 31, regardless of when my first application is submitted.
- I understand that the program can be suspended or modified at any time and that I have no entitlement to receive assistance.
- I certify, under penalty of perjury, that the information included in and with this application is true and correct.

Signature of applicant: _____ Date: _____

Please submit this application in person to The Resource Connection Food Bank at 206 George Reed Dr, San Andreas, CA 95249. Call (209) 754-1257 in advance to make an appointment.

CALAVERAS COUNTY WATER DISTRICT

120 Toma Court • PO Box 608 • San Andreas, CA 95249 • Main line (209) 754-3543

For Internal Use Only

The Resource Connection Verification:

☐ PG&E CARE Bill Included ☐Wastewater Customer ☐Water Customer ☐Both

☐Approved ☐Denied Denial Reason: _____ ☐Denial Letter Sent

☐Placed on Eligibility List Date Placed: _____

Processed By: _____ Date Processed: _____

CCWD Records:

☐Rate Updated ☐ Approval Letter Sent ☐Logged ☐Alert

Processed By: _____ Date Processed: _____

2017 Federal Poverty Guidelines

Per the United Stated Department of Health and Human Services

Size of family unit	100 Percent of Poverty	110 Percent of Poverty	125 Percent of Poverty	150 Percent of Poverty	175 Percent of Poverty	185 Percent of Poverty	200 Percent of Poverty
1	$11,880	$13,068	$14,850	$17,820	$20,790	$21,978	$23,760
2	$16,020	$17,622	$20,025	$24,030	$28,035	$29,637	$32,040
3	$20,160	$22,176	$25,200	$30,240	$35,280	$37,297	$40,320
4	$24,300	$26,730	$30,375	$36,450	$42,525	$44,955	$48,600
5	$28,440	$31,284	$35,550	$42,660	$49,770	$52,614	$56,880
6	$32,580	$35,838	$40,725	$48,870	$57,015	$60,273	$65,160
7	$36,730	$40,403	$45,913	$55,095	$64,278	$67,951	$73,460
8	$40,890	$44,979	$51,113	$61,335	$71,558	$75,647	$81,780

Preferred Percentage

CARE Program

To qualify for CARE:

- The PG&E bill must be in your name. (For sub-metered tenants, the energy bill from your landlord must be in your name.)
- You must live at the address to which the discount applies.
- Another person (besides your spouse) can't claim you as a dependent on an income tax return.
- You must not share an energy meter with another home.
- You must account for all sources of qualifying household income and meet the program income guidelines.
- You must notify PG&E if your household no longer qualifies for the CARE discount.
- After you enroll, you may need to provide proof of qualifying household income, including IRS tax returns. You may also be required to participate in the Energy Savings Assistance Program.
- Your monthly electric usage must not exceed six times the Tier 1 allowance. This is the lowest-priced rate tier within PG&E's standard Tiered Base Plan.
- You must renew your eligibility every two years (or every four years if you're on a fixed income).
- Qualification is based on the total income of everyone living in the home or participation in qualifying public assistance programs.

QUALIFYING FOR CARE BASED ON PUBLIC ASSISTANCE PROGRAM PARTICIPATION

You may qualify for the CARE Program if you or someone in your household takes part in any of the following public assistance programs.

- Low Income Home Energy Assistance Program (LIHEAP)
- Women, Infants, and Children (WIC)
- CalFresh/SNAP (Food Stamps)
- CalWORKs (TANF) or Tribal TANF
- Head Start Income Eligible (Tribal Only)
- Supplemental Security Income (SSI)
- Medi-Cal for Families (Healthy Families A & B)
- National School Lunch Program (NSLP)
- Bureau of Indian Affairs General Assistance
- Medicaid/Medi-Cal (under age 65)
- Medicaid/Medi-Cal (age 65 and over)

QUALIFYING FOR CARE BASED ON HOUSEHOLD INCOME

Add all household members' incomes from all eligible sources for your total gross annual household income. The total combined gross annual household income must be at or below the amounts shown in the following table. Add all household members' incomes from all eligible sources for your total gross annual household income. The total combined gross annual household income must be at or below the

Number of Persons in Household	Total Gross Annual Household Income*
1-2	$32,920 or less
3	$41,560 or less
4	$50,200 or less
5	$58,840 or less
6	$67,480 or less
7	$76,120 or less
8	$84,760 or less
9	$93,400 or less
10	$102,040 or less
Each additional person, add	$8,640

**Before taxes based on current income sources. Valid through May 31, 2019.*

Household income includes all taxable and nontaxable revenues from all people living in the home. It includes, but is not limited to the following sources:

- Wages
- Salaries
- Interest and dividends
- Spousal and child support payments
- Public assistance payments
- Social Security and pensions
- Housing and military subsidies
- Rental income
- Self-employment income
- All employment-related, non-cash income

PLEASE NOTE: Your household income must meet the program income guidelines.