
**REGULAR BOARD MEETING
AGENDA
TRI-DAM PROJECT
of THE OAKDALE IRRIGATION DISTRICT and
THE SOUTH SAN JOAQUIN IRRIGATION DISTRICT
DECEMBER 21, 2023
9:00 A.M.**

**South San Joaquin Irrigation District
11011 E. Highway 120
Manteca, CA 95336**

A COMPLETE COPY OF THE AGENDA PACKET WILL BE AVAILABLE ON THE TRI-DAM PROJECT WEB SITE (www.tridamproject.com) ON MONDAY, DECEMBER 18, 2023 AT 9:00 A.M. ALL WRITINGS THAT ARE PUBLIC RECORDS AND RELATE TO AN AGENDA ITEM WHICH ARE DISTRIBUTED TO A MAJORITY OF THE BOARD OF DIRECTORS LESS THAN 72 HOURS PRIOR TO THE MEETING NOTICED ABOVE WILL BE MADE AVAILABLE ON THE TRI-DAM PROJECT WEB SITE (www.tridamproject.com).

Members of the public who wish to attend and participate in the meeting remotely, as opposed to in-person, can do so via internet at <https://ssjid.zoom.us/j/98120276218> or by telephone, by calling 1 (669) 900-6833, Meeting ID: 981-2027-6218, Password: 700546. All speakers commenting on Agenda Items are limited to five (5) minutes.

Members of the public may also submit public comments in advance by e-mailing dbarney@ssjid.com by 4:30 p.m., Wednesday, December 20, 2023.

In compliance with the Americans with Disabilities Act, a person requiring an accommodation, auxiliary aid, or service to participate in this meeting should contact the Executive Assistant at (209) 249-4623, as far in advance as possible but no later than 24 hours before the scheduled event. Best efforts will be made to fulfill the request.

CALL TO ORDER

PLEDGE OF ALLEGIANCE

ROLL CALL: John Holbrook, Dave Kamper, David Roos, Glenn Spyksma, Mike Weststeyn
Brad DeBoer, Herman Doornenbal, Tom Orvis, Linda Santos, Ed Tobias

PUBLIC COMMENT

CONSENT CALENDAR

ITEMS 1 - 2

1. Approve the regular board meeting minutes of November 16, 2023.
 2. Approve the November statement of obligations.
-

ACTION CALENDAR

ITEMS 3 - 13

3. Discussion and possible action regarding Tulloch Encroachment Permit Application #2023-33, Variance Request for the Shoreline Management Plan for a private facility to extend beyond the 40 ft. maximum distance from the 510' elevation contour. Property is located within the Peninsula Estates Subdivision at 39 Sanguinetti Ct., Copperopolis, CA 95228, APN 061-055-002.
 4. Discussion and possible action to approve the Associated California Water Agencies Annual 2024 Membership Dues.
 5. Discussion and possible action to approve and adopt 2024 Budget.
 6. Discussion and possible action to award the Tulloch Shoreline Erosion Project.
 7. Discussion and possible action to authorize the General Manager to execute Professional Services Agreement for Cultural Resource Monitoring.
 8. Discussion and possible action to authorize the General Manager to execute a Professional Services Agreement for spill gate inspections – all locations.
 9. Discussion and possible action to authorize the General Manager to execute a Professional Services Agreement for Chief Dam Safety Engineer.
 10. Discussion and possible action to create and designate members for New Headquarters Ad hoc Committee.
 11. Discussion and possible action to approve the funding for 2024 to contract with FishBio, Inc. and authorize the General Manager to execute the 2024 Professional Services Agreement 2024-PSA-TDP-01.
 12. Discussion and possible action to authorize the General Manager to execute a Professional Services Agreement for Doug's Dockworks. *This item will be taken after closed session.*
 13. Discussion and possible action to authorize the General Manager to execute a Professional Services Agreement for Tulloch South Shore Lease. *This item will be taken after closed session.*
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COMMUNICATIONS

ITEMS 14 – 17

14. Staff reports as follows:
 - a. General Manager Report
 - b. Operations Report
 - c. Maintenance Report
 - d. Compliance Report
15. Generation Report
16. Fisheries studies on the Lower Stanislaus River
17. Directors' Comments

CLOSED SESSION**ITEM 18**

18. a. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
Government Code § 54956.9(d)(1)
1. *Lee Tyler et al. v. Oakdale Irrigation; et al.*
Calaveras Superior Court Case No. 17CV42319
 2. *San Joaquin Tributaries Authority, et al v. California State Water Resources Control Board*
County of Sacramento Superior Court
Case No. JCCP 5013
- b. CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION
Initiation of Litigation
Government Code §54956.9(d)(4)
One (1) case
- c. CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION
Significant Exposure to Litigation
Government Code §54956.9(d)(2)
One (1) case
- d. CONFERENCE WITH REAL PROPERTY NEGOTIATOR
Government Code §54656.8
Property: Canyon Tunnel
Agency Negotiator: SSJID General Manager
Negotiating Parties: Mangante, Rancheria Del Rio Estanislau, LLC
Under Negotiation: Price and Terms of Payment of Sale
- e. REAL PROPERTY NEGOTIATIONS
Government Code § 54956.8
Property: 063-100-007
Agency Negotiator: General Manager
Negotiating Parties: Unknown
Under Negotiation: Price and Terms
- f. PUBLIC EMPLOYEE PERFORMANCE EVALUATION
Government Code § 54957(b)(1)
Title: General Manager

ADJOURNMENT**ITEM 19**

19. Adjourn to the next regularly scheduled meeting

BOARD AGENDA REPORT

Date: 12/21/2023
Staff: Genna Modrell

SUBJECT: Tri-Dam Project November 2023 Minutes

RECOMMENDED ACTION: Review and possible approval of November 16, 2023 Minutes

BACKGROUND AND/OR HISTORY:

Draft minutes attached.

FISCAL IMPACT: None

ATTACHMENTS: Draft minutes attached.

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

**TRI-DAM PROJECT
MINUTES OF THE JOINT BOARD
OF DIRECTORS REGULAR MEETING**

November 16, 2023
Oakdale, California

The Joint Boards of Directors of the Oakdale Irrigation District and the South San Joaquin Irrigation District met in joint session at the office of Oakdale Irrigation District in Oakdale, California, on the above date for the purpose of conducting business of the Tri-Dam Project, pursuant to the resolution adopted by each of the respective Districts on July 29, 1955.

President Orvis called the meeting to order at 9:00 a.m.

OID DIRECTORS

SSJID DIRECTORS

DIRECTORS PRESENT:

ED TOBIAS
TOM ORVIS
HERMAN DOORNENBAL

GLENN SPYKSMA
MIKE WESTSTEYN
DAVID ROOS
JOHN HOLBROOK
DAVE KAMPER

Also Present:

Summer Nicotero, General Manager, Tri-Dam Project; Scot Moody, General Manager, OID; Sharon Cisneros, Chief Financial Officer, OID; Genna Modrell, Finance Asst., Tri-Dam Project; Peter Rietkerk, General Manager, SSJID; Sonya Williams, Finance and Administration Manager, SSJID; Forrest Killingsworth, Engineering Manager, SSJID; Mia Brown, Counsel, SSJID; Tim O’Laughlin, Counsel; Scott Lewis, Provost & Pritchard

PUBLIC COMMENT

No public comment.

Summer Nicotero requested item 15 be taken out of order before the action calendar to accommodate visitors.

CONSENT CALENDAR

- ITEM #1** Approve the regular board meeting minutes of October 16, 2023.
- ITEM #2** Approve the Financial Statements of the eight months ending September 30, 2023.
- ITEM #3** Approve the October statement of obligations.

Director Spyksma moved to approve items 1,2,3 as presented. Director Doornenbal seconded the motion.

The motion passed by the following roll call vote:

AYES: Doornenbal, Orvis, Tobias, Holbrook, Kamper, Roos, Spyksma, Weststeyn
NOES: None
ABSTAINING: None
ABSENT: DeBoer, Santos

DISCUSSION

ITEM #15 Canyon Tunnel Update

Forrest Killingworth and Scott Lewis updated the board on the progress of the 90% Design work, including unanticipated work and provided a schedule update.

ACTION CALENDAR

ITEM #4 Discussion and possible action to approve holiday time off between Christmas and New Year's for all Tri-Dam employees.

Director Weststeyn moved to approve as presented. Director Doornenbal seconded the motion.

The motion passed by the following roll call vote:

AYES: Doornenbal, Orvis, Tobias, Holbrook, Roos, , Weststeyn

NOES: Kamper, Spyksma

ABSTAINING: None

ABSENT: DeBoer, Santos

ITEM #5 Discussion and possible action to approve the Associated California Water Agencies Annual 2024 Membership Dues.

Director Holbrook moved to approve as presented. Director Orvis seconded the motion.

The motion failed by the following roll call vote:

AYES: Orvis, Tobias, Holbrook, Kamper, Roos, Spyksma, Weststeyn

NOES: Doornenbal

ABSTAINING: None

ABSENT: DeBoer, Santos

ITEM #6 Discussion and possible action to extend the Independent Audit Services for years ending 2023 and 2024 – C.J. Brown & Company, CPAs.

Director Tobias moved to approve as presented. Director Kamper seconded the motion.

The motion passed by the following roll call vote:

AYES: Doornenbal, Orvis, Tobias, Holbrook, Kamper, Roos, Spyksma, Weststeyn

NOES: None

ABSTAINING: None

ABSENT: DeBoer, Santos

ITEM #7 Discussion and possible action to approve the replacement and modernization of our Control Network infrastructure and to approve a capital budget adjustment.

Director Tobias moved to approve the replacement and modernization as presented including a capital budget adjustment of \$45,000. Director Kamper seconded the motion.

The motion passed by the following roll call vote:

AYES: Doornenbal, Orvis, Tobias, Holbrook, Kamper, Roos, Spyksma, Weststeyn

NOES: None

ABSTAINING: None

ABSENT: DeBoer, Santos

ITEM #8 Discussion and possible action to approve TCG Technical Advisor for Tulloch Unit 1 and Unit 2 Turbine Guide Bearing inspection.

Director Tobias moved to approve as presented. Director Roos seconded the motion.

The motion passed by the following roll call vote:

AYES: Doornenbal, Orvis, Tobias, Holbrook, Kamper, Roos, Spyksma, Weststeyn

NOES: None

ABSTAINING: None

ABSENT: DeBoer, Santos

ITEM #9 Discussion and possible action to approve the replacement of the Tulloch powerhouse control room HVAC system and to approve a capital budget adjustment.

Director Holbrook moved to approve replacement of the Tulloch powerhouse control room HVAC system as presented including a capital budget increase of \$12,000. Director Tobias seconded the motion.

The motion passed by the following roll call vote:

AYES: Doornenbal, Orvis, Tobias, Holbrook, Kamper, Roos, Spyksma, Weststeyn

NOES: None

ABSTAINING: None

ABSENT: DeBoer, Santos

ITEM #10 Discussion and possible action to authorize General Manager to award a bid for trunnion pin replacement for spillway gate #1 at Beardsley and to approve a capital budget adjustment.

Director Tobias moved to approve TCB Industrial as presented, authorize the General Manager to execute a contract and any associated documents related to the completion of this work and a budget adjustment of \$206,000. Director Holbrook seconded the motion.

The motion passed by the following roll call vote:

AYES: Doornenbal, Orvis, Tobias, Holbrook, Kamper, Roos, Spyksma, Weststeyn

NOES: None

ABSTAINING: None

ABSENT: DeBoer, Santos

ITEM #11 Discussion and possible action to award contract for the Hells Half Acre Road Repair Project.

Director Kamper moved to approve Njirich & Sons, Inc. as presented, authorize the General Manager to execute a construction contract and any associated documents related to the completion of this work. Director Tobias seconded the motion.

The motion passed by the following roll call vote:

AYES: Doornenbal, Orvis, Tobias, Holbrook, Kamper, Roos, Spyksma, Weststeyn

NOES: None

ABSTAINING: None

ABSENT: DeBoer, Santos

DISCUSSION

ITEM #13 IBEW Incentive Program

Summer Nicotero presented the current hours of downtime and advised that staff is expected to receive the full amount of this program.

ITEM #14 2024 Draft Budget

Summer Nicotero presented a draft budget for review and responded to Director questions.

COMMUNICATIONS

ITEM #16 Staff Reports:

- A. General Manager, Summer Nicotero
 - Nothing to add.
- B. Operations Report, Brett Gordon
 - Nothing to add.
- C. Maintenance Report, Daniel Hogue
 - Nothing to add.
- D. Compliance Report, Justin Calbert
 - Nothing to add.

ITEM #17 Generation Report

No report.

ITEM #18 Fisheries Studies on the Lower Stanislaus River

No report.

ITEM #19 Directors Comments

None.

President Orvis recessed to the Tri-Dam Power Authority Board of Commissioners meeting at 10:24 a.m.

The Tri-Dam Project meeting resumed at 10:27 a.m. after the Tri-Dam Power Authority meeting adjourned.

President Orvis announced before closed session that the following items would be discussed. The Board took a brief recess at 10:28 a.m. and convened to Closed Session at 10:42 a.m.

ITEM #20 Closed Session

- a. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
Government Code § 54956.9(d)(1)
 - 1. *San Joaquin Tributaries Authority, et al v. California State Water Resources Control Board*
County of Sacramento Superior Court
Case No. JCCP 5013
- b. CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION
Initiation of Litigation
Government Code §54956.9(d)(4)
One (2) cases
- c. CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION
Significant Exposure to Litigation
Government Code §54956.9(d)(2)
One (1) case

- d. CONFERENCE WITH REAL PROPERTY NEGOTIATOR
Government Code §54656.8
Property: Canyon Tunnel
Agency Negotiator: SSJID General Manager
Negotiating Parties: Mangante, Rancheria Del Rio Estanislau, LLC
Under Negotiation: Price and Terms of Payment of Sale

- e. PUBLIC EMPLOYMENT
Government Code §54957(b)
Represented and Unrepresented Employees

At the hour of 12:05 p.m., the Board reconvened to open session.

Disclosure of reportable actions taken in Closed Session, pursuant to Government Code Section 54957.1: There were no reportable actions taken in closed session.

ITEM #12 Discussion and consideration of the claim submitted by Coren & Coren on behalf of Vera Whittenburg. *This item will be taken after closed session.*

Director Spyksma moved to deny. Director Tobias seconded the motion.

The motion passed by the following roll call vote:

AYES: Doornenbal, Orvis, Tobias, Holbrook, Kamper, Roos, Spyksma, Weststeyn

NOES: None

ABSTAINING: None

ABSENT: DeBoer, Santos

ADJOURNMENT

President Orvis adjourned the meeting at 12:07 p.m.

The next regular board meeting is scheduled for December 21, 2023, at the offices of South San Joaquin Irrigation District beginning at 9:00 a.m.

ATTEST:

Summer Nicotero, Secretary
Tri-Dam Project

BOARD AGENDA REPORT

Date: 12/21/2023
Staff: Genna Modrell

SUBJECT: Tri-Dam Project November Statement of Obligations

RECOMMENDED ACTION: Recommend Approval of November Statement of Obligations

BACKGROUND AND/OR HISTORY:

Submitted for approval is the November Statement of Obligations for Tri-Dam Project.

FISCAL IMPACT: See Attachments

ATTACHMENTS: Tri-Dam Project Statement of Obligations

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

Tri-Dam Project

Statement of Obligations

Period Covered

November 1, 2023 to November 30, 2023

TRI-DAM PROJECT
STATEMENT OF OBLIGATIONS

Period Covered
November 1, 2023 to November 30, 2023

One-Half Oakdale Irrigation District	\$ 289,455.18
One-Half South San Joaquin Irrigation District	\$ 289,455.18
Total Obligations	<u>\$ 578,910.36</u>

CERTIFICATION

OAKDALE IRRIGATION DISTRICT

SOUTH SAN JOAQUIN IRRIGATION DISTRICT

Thomas D. Orvis

John Holbrook

Ed Tobias

Dave Kamper

Linda Santos

David Roos

Herman Doornenbal

Glenn Spyksma

Brad DeBoer

Mike Weststeyn

Each of the undersigned certifies that he is President or Secretary of his respective District;
That the amounts designated above have been properly incurred as an obligation of the Tri-Dam Project; that
checks for payment of said amounts have been drawn on a Tri-Dam Project account at Oak Valley Community
Bank, Sonora, California.

**OAKDALE IRRIGATION DISTRICT
PRESIDENT,**

**SOUTH SAN JOAQUIN IRRIGATION DISTRICT
PRESIDENT,**

Thomas D. Orvis

Mike Weststeyn

SECRETARY,

SECRETARY,

Scot A. Moody

Date

Peter M. Rietkerk

Date

Tri Dam Project Statement of Obligations

Period Covered

From To

November 1, 2023 to November 30, 2023

	<u>No. Chks.</u>	<u>Amount</u>
<u>Vendor Check Register Report</u> (Please see attached Check Listing)	65	\$ 379,831.22
 <u>Payrolls - Net Charges</u>		
<u>Pay Date</u>	<u>Type</u>	<u>Payroll Amount</u>
9-Nov-23	Payroll	\$ 93,678.03
22-Nov-23	Payroll	\$ 105,401.11
 Total Net Payroll	 <u>\$ 199,079.14</u>	 \$ 199,079.14
 Total Disbursements for the Period		 <u>\$ 578,910.36</u>
 District Portion~		
Oakdale Irrigation District		\$ 289,455.18
South San Joaquin Irrigation District		\$ 289,455.18
 Total Districts		 <u>\$ 578,910.36</u>

Project

November Checks



Check Number	Vendor No	Vendor Name	Check Date	Description	Amount
130450	10931	360Training.com, Inc.	11/03/2023		800.00
130451	11418	ABC Supply Co. Inc.	11/03/2023		66.25
130452	11475	Alley Tree & Landscape	11/03/2023	Landscaping/Janitorial for Tulloch Day Use, Landscaping New Bldg	8,300.00
130453	10068	AT&T Corp - Data Link	11/03/2023		308.79
130454	11086	Benefit Resource, LLC	11/03/2023		150.00
130455	11459	C & R Royal SVC, Inc.	11/03/2023	DEF 98, Motor oil, oil filters, batteries for fleet	5,336.08
130456	11421	Center for Hearing Health	11/03/2023		680.00
130457	10935	Data Path, Inc.	11/03/2023	Network Support	3,208.75
130458	10227	Del Oro Water Co. Inc.	11/03/2023		749.78
130459	10245	Doherty Tire of Sonora Inc.	11/03/2023	M/S tires for fleet	5,695.39
130460	11048	Fastenal (Vending)	11/03/2023		487.01
130461	11379	Foust Heat Air Refrigeration	11/03/2023		590.00
130462	10319	General Plumbing Supply Co Inc.	11/03/2023		15.10
130463	11098	Government Finance Officers Assoc.	11/03/2023		160.00
130464	10333	Grainger Inc. W. W.	11/03/2023		240.24
130465	10938	Great America Financial Svcs.	11/03/2023		290.46
130466	11049	Hunt & Sons, LLC	11/03/2023	Diesel for DPH/BPH	3,147.75
130467	10402	Kamps - High Country Propane	11/03/2023	Propane for PHs, Strawberry Office/shop	2,426.56
130468	10485	Newark element14	11/03/2023		356.49
130469	11499	Norcal Molecular, LLC	11/03/2023		797.31
130470	10500	OID ~ Routine	11/03/2023	Admin/Finance Reimburse	1,021.59
130471	11414	Provost & Pritchard	11/03/2023	Bid Support Services - FEMA Sites 1, 2, 5	23,141.55
130472	11495	Western Hydrologic Systems	11/03/2023	Streamgaging	6,250.00
130473	10933	Smile Business Products	11/03/2023		187.64
130474	10641	Sonora Airco Gas & Gear	11/03/2023		258.53
130475	11005	Sonora Lumber Company	11/03/2023		29.97
130476	10658	Springbrook Holding Company LLC	11/03/2023	Annual Renewal	12,821.19
130477	10749	UPS	11/03/2023		23.28
130478	10755	USDA Forest Service	11/03/2023		76.37
130479	10648	Adventist Health Sonora HBOC	11/15/2023		600.00
130480	11413	Alliant Insurance Services Inc.	11/15/2023	Terrorism Policy Renewal	31,469.90
130481	10866	AT&T Teleconference Services	11/15/2023		4.13
130482	10086	Barton Overhead Door	11/15/2023		420.00
130483	11350	Calaveras County Public Works	11/15/2023	Fees for Tulloch Day Use	2,111.77
130484	10154	Calaveras Telephone Co.	11/15/2023		113.38
130485	10245	Doherty Tire of Sonora Inc.	11/15/2023	Tires for fleet	3,546.75
130486	10250	Downey Brand Attorneys LLP.	11/15/2023	Tulloch Litigation	3,271.09
130487	11083	Eric Everhart	11/15/2023	Employee PPE Reimbursement	400.00
130488	10294	FISHBIO	11/15/2023	Fish Studies	22,300.00
130489	10320	General Supply Co.	11/15/2023		394.24
130490	11049	Hunt & Sons, LLC	11/15/2023	Fuel	6,496.08
130491	10402	Kamps - High Country Propane	11/15/2023		755.89
130492	10879	Lowe's	11/15/2023		609.80
130493	10439	McMaster-Carr Supply Co.	11/15/2023		760.83
130494	10513	Pacific Gas & Elec - Non Util	11/15/2023		168.28
130495	11472	Pacific Gas & Electric	11/15/2023		391.54
130496	11274	PAR Environmental Services, Inc.	11/15/2023	FERC Monitoring for Donnells/Beardsley	4,020.00
130497	11389	Paris Kincaid Wasiewski	11/15/2023		247.50
130498	10536	Pitney Bowes Purchase Power Inc.	11/15/2023		34.97
130499	11461	SGS North America OCM	11/15/2023		157.50
130500	11404	Siemens Industry, Inc.	11/15/2023	RTU SCADA - Milestone 2	6,372.00
130501	10632	Slakey Brothers Inc.	11/15/2023		72.86
130502	11473	Staples	11/15/2023	Ink cartridges, paper, binders, trash bags, hand soap, kleenex	1,358.86
130503	11343	Tim O'Laughlin, PLC	11/15/2023	Legal Services	18,615.00
130504	10718	Tractor Supply Credit Plan	11/15/2023		203.76

130505	10740	Tuolumne Utilities District	11/15/2023	Utilities	2,074.27
130506	10749	UPS	11/15/2023		123.56
130507	10755	USDA Forest Service	11/15/2023	Beardsley Campground Agreement	160,583.84
130508	10776	Waste Mgmt of Cal Sierra Inc.	11/15/2023		469.01
130509	10954	YSI Incorporated	11/15/2023		917.25
	ACH 10815	Cal PERS System	11/14/2023	EE/ER Retirement Plan	16,757.53
	ACH 11435	VISA	11/22/2023	Axel Shaft for snowblower, hard hats, shop heater parts, SAM Reg.	10,710.53
	ACH 10812	Nationwide Retirement Solution	11/14/2023	EE Retirement Plan	3,287.40
	ACH 10811	IBEW	11/14/2023	Union Dues	1,254.16
	ACH 10183	Cal PERS S457 Plan	11/14/2023	EE Retirement Plan	1,141.46

Report Total: \$ 379,831.22

BOARD AGENDA REPORT

Date: 12/21/23

Staff: Summer Nicotero

SUBJECT: Tulloch Encroachment Permit Application #2023-33, Variance Request from the Shoreline Management Plan for a Private Facility to extend beyond the 40 ft maximum distance from the 510' elevation contour. Property is located within the Peninsula Estates Subdivision at 39 Sanguinetti Ct., Copperopolis, CA 95228, APN 061-055-002.

RECOMMENDED ACTION: Discussion and possible action on variance application.

BACKGROUND AND/OR HISTORY:

The Shoreline Management Plan (SMP), a part of Tri-Dam's FERC license states that, "requests for variances from these guidelines will be considered on a case-by-case basis subject to demonstration that the proposed variance results from a physical constraint or other limitation which results in a substantial hardship to the applicant if imposed. Furthermore, it must be demonstrated that approval of the variance would not conflict with any other standard or create conflicts with adjoining properties or other reservoir use."

The SMP also states that, "applicants may be required to redesign or otherwise alter their proposals in order for the shoreline development project to be approved." These provisions were intended to ensure that variances were the rare exception and granted on an extremely limited basis. Consistent with the SMP and legal provisions, in July 2019, the Board affirmed the procedure for variance requests. Variance applications must include the submittal of an application, plans, and narrative description to provide justification of the hardship that exists and explanation of alternatives considered. All variance requests require action by the Board.

Section 4.3.3 of the current SMP states that "1) All facilities shall be designed to ensure that the facilities are located as close to the shoreline as possible and shall not extend more than 40 ft from the reservoir NMWSE" (510' elevation contour). "An owner may apply for a facility that extends further than 40 ft if it can be demonstrated that the 40-ft restriction would make the facility unfeasible given environmental considerations such as topography or terrain. In addition, it must be demonstrated that the facility would not obstruct or interfere with the access of adjacent parcels and public lake use."

The property currently has a permitted dock installed on it, that is compliant with the Tulloch Shoreline Management Plan.

Attached is the variance request submittal, copy of proposed site plans, photos of the existing permitted dock, and aerial photo of the cove. This proposed variance is to 1) allow the moving and repositioning of the existing dock as specified in the submitted site plans, 2) allow the outermost limits of the dock to extend approximately 60' from the 510' elevation contour, 3) replace existing gangway with new.

FISCAL IMPACT: None

ATTACHMENTS: Variance submittal, copy of proposed site plans, photos of the existing permitted dock, and aerial photo of the cove.

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

ENCROACHMENT PERMIT APPLICATION FORM

Request for Variance

TRI-DAM PROJECT
P.O. BOX 1158
PINECREST, CA 95364
(209) 785-3838
(209) 532-3838

Location: Calaveras County: PENINSULA ESTATES (Subdivision Name)
Tuolumne County: _____ (Subdivision Name)
Project Type: New Facilities _____ Addition/Replacement of Facilities

Applicant(s): JONATHAN AND AMANDA CLOWARD

Mailing Address: P.O. Box 951

City: REDON State CA Zip 95366

Telephone: (Home) 209-495-7664 (Business) _____

Property Owner(s)-(If Different): _____

Mailing Address: _____

City: _____ State _____ Zip _____

Telephone: (Home) _____ (Business) _____

Email Address: _____

Primary Contact (if other than applicant): _____

Mailing Address: _____

City: _____ State _____ Zip _____

Telephone: (Home) _____ (Business): _____

Email Address: _____

Project Site Address: 39 SANGUIJETTI CT

Assessor's Parcel Number: 061-055-002 Lot # 28

Detailed Description of Proposed Variance:

EXTEND GARGWAY AT CURRENT LOCATION AND ROTATE SOUL
CAUSING IT TO EXTEND PAST THE 40FT AT SID LINE.
SEE ATTACHED MEMO FOR MORE INFO.

Detailed Explanation of Conditions to Support Variance: (Include Additional Sheet if Necessary)

SEE ATTACHED

Will The Project Include Excavation? Yes _____ No X

If Yes, Estimate the Number of Cubic Yards of Material To Be Removed and Include a Detailed Description of The Manner In Which The Work Will Be Performed: _____

Make sure to include ALL of the following:

1. Signed application form.
2. Site plan copies, as specified on the instruction sheets.
3. Application fee.

I, the property owner, consent to the filing of this application in conformance with the Shoreline Management Plan and FERC order. I acknowledge that I will be required to comply with applicable permit requirements, including other agency conditions and that I will be required to execute a Hold Harmless Agreement prior to permit finalization.

Signature(s): *John R. Cram*

Date: 8-22-23

FOR AGENCY USE ONLY

Date Received: 10/2/2023
Amount Paid: \$ 750.⁰⁰
Check #: 0127
Receipt #: 563289

Comments: 2023-33

Initial Letter: 10/2/2023

Notes: Variance Application - Dock Relocation

Jonathan and Amanda Cloward
39 Sanguinetti Ct
August 22, 2023

Dock Variance Request

To the staff at Tri-Dam,

I am submitting a request for a variance on the enforcement of 40ft offset of the 510 line of our current dock. When examining this particular lot, you will see a history of hardships that have been rectified after following specific processes outlined by the governing agencies of which they fall. We believe this to be a final hurdle regarding this property.

The dock was installed and final'd according to the Tri-Dam permit on July 2022. During that summer and the current summer, we have seen that although we hoped a dock could be installed without a dig out, this simply isn't the case. There is very shallow water at the northeast corner and the dock can't be enjoyed unless the water is at peak height. We are also unable to install or use a hydro hoist boat lift because even at the peak water height, there is not enough water depth to handle it. Naturally we began exploring a dock dig out. Because of the topographical shape of the lot along the water, we have determined that a dock dig out is not a feasible option. I will explain further below.

As you will see on the attached parcel map, the waters edge has a distinct S curve creating a cove. As the 40ft set back at the 510 is measured, it creates an almost 90 degree angle. The hardship here is that this S curve causes the 40ft set back to be enforceable on 2 sides. The significance applies to the encroachments for the house which are on our current permit. It is not feasible to do a dock dig out because any dig out would have a cut slope on north side and the east side of the dock. Again, it's 2 sides instead of 1. No matter how we orient the dock or even look at changing the gangway location of the dock the restrictions are the same. Any dig out in this area would threaten the infrastructure of the lower deck along the north side as well at the upper deck footings along the east side. If it was deemed possible, additional engineering and footings would be needed to support them creating an even greater environmental impact.

We have explored other options as well including moving the dock to the northwest side of the lot. Unfortunately any placement of a dock would be outside our parcel lines. We attempted an easement request with the HOA who owns the adjacent lot in return for an easement for their park which is on our property. That vote by the HOA home owners was denied. There is simply no other location this dock can be placed.

Our request for a variance includes the following: We would extend the current gangway and move the northeast corner of the dock southward by 6 feet. The finger side of the dock or west side would be rotated approximately 45 degrees moving it southward by 20 feet. This would cause approximately 100 sq ft of the dock to extend past 40ft setback which is approximately 25% of the current dock foot print. This change would also be insignificant in regards to how close the dock is from our property line or how far it sticks out, only changing by 1 inch. By examining the photo attached, you will also see that this variance doesn't effect any neighboring property owners from accessing their dock. There are also no future dock locations in the surrounding area.

It is our belief that granting this variance and allowing us to move our dock is not only necessary but offers the least amount of environmental impact. The depth of the water at the proposed location may also facilitate an environment where no dock dig out is even needed at all. We feel we have established all requirements needed for a variance. We appreciate your time as you consider our request.

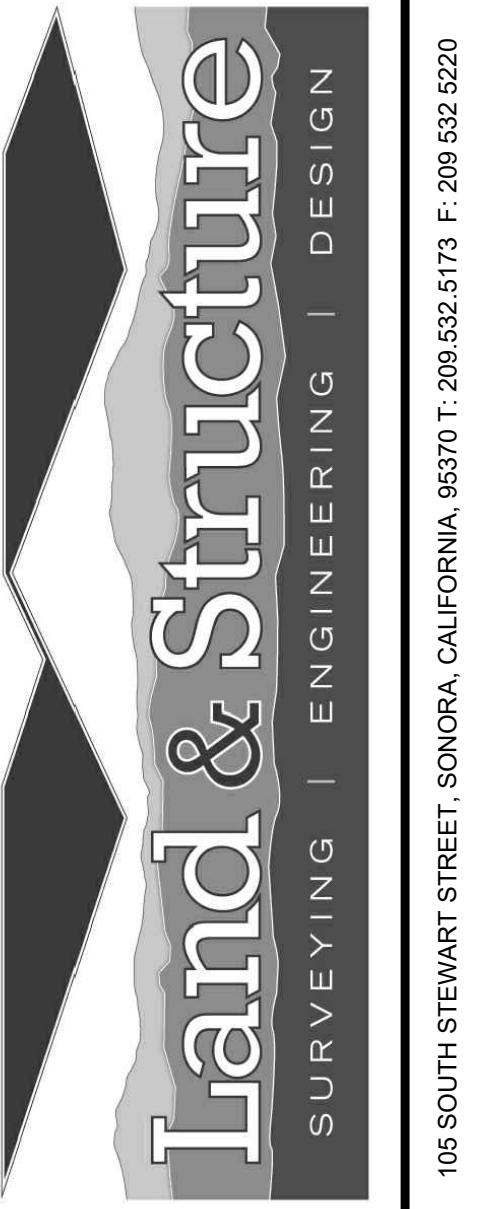
Respectfully,

Jonathan and Amanda Cloward



AN AS-BUILT PLAN FOR: JONATHAN CLOWARD

LOT 28, 39 SANGUINETTI COURT
COPPEROPOLIS, CA 95228



105 SOUTH STEWART STREET, SONORA, CALIFORNIA, 95370 T: 209.532.5173 F: 209.532.5220

PROJECT SCOPE

PROVIDE A PLANIMETRIC LAYOUT FOR RE-LOCATION OF PREVIOUSLY PERMITTED 4437.5 FT² BOAT DOCK BY ALUMADOCK WITH METAL HIP ROOF AND LOW WATER SUPPORT LEGS. RE-USE EXISTING CONCRETE LANDING FOR NEW LONGER GANGWAY. KEEP SOLAR POWERED BOAT LIFT, SOLAR POWERED LED CANOPY LIGHTING, SWIM LADDER AND DOCK BOX.

TRI DAM PROJECT: TULLOCH PROJECT

TRI-DAM PROJECT PROVIDES MANAGEMENT FOR LAKE TULLOCH IN ACCORDANCE TO THE "SHORELINE MANAGEMENT PLAN" AND ENSURES COMPLIANCE WITH THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) LICENSE. BOUNDARY EXTENDS DOWN FROM THE PROJECT BOUNDARY OF THE 515' CONTOUR.

GENERAL

- PRIOR TO CONSTRUCTION OWNER/ CONTRACTOR MUST OBTAIN AN ENCROACHMENT PERMIT FROM TRI-DAM PROJECT.
- ADDITIONAL PERMITS MAY BE REQUIRED FROM U.S. ARMY CORPS OF ENGINEERS, CALIFORNIA DEPARTMENT OF REGIONAL WATER QUALITY, AND CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE. OWNER/CONTRACTOR TO VERIFY IF PERMITS ARE NECESSARY AND IF SO COMPLY WITH REQUIREMENTS AND OBTAIN PERMITS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE IF PERMITS ARE REQUIRED FROM THE COUNTY HAVING JURISDICTION.

CONSTRUCTION

- ALL ELEVATIONS FOR CONSTRUCTION MUST BE BASED ON WATER LEVEL AS REPORTED TO TRI-DAM OPERATIONS.
- PRIOR CONSTRUCTION THE 510' AND 515' CONTOURS MUST BE STAKED BY A LICENSED LAND SURVEYOR.
- FACILITIES SHALL NOT EXTEND NOT MORE THAN 40' FROM THE SHORE LINE AT "HIGH-WATER" (510' CONTOUR) ELEVATIONS.
- FACILITIES SHALL NOT OBSTRUCT OR INTERFERE WITH THE ACCESS OF ADJACENT PARCELS AND PUBLIC LAKE USE.
- REFLECTORS SHALL BE PLACED ON THE TWO FURTHERMOST CORNERS OF ANY DOCK STRUCTURE THAT EXTENDS INTO THE WATER.
- FLOTATION MATERIALS, IF USED, SHALL BE PUNCTURE RESISTANT AND DESIGNED NOT TO SINK IF PUNCTURED.

PROJECT OVERVIEW

PLAN PROVIDES PLANIMETRIC LAYOUT TO COMPLY WITH THE TRI-DAM SMP. THE CONTRACTOR TO ENSURE THE DOCK AND COMPONENTS ARE INSTALLED AS SHOWN. THE STRUCTURAL INTEGRITY OF ALL THE STRUCTURES, COMPONENT, AND FEATURES ON THIS PLAN ARE THE RESPONSIBILITY OF THE MANUFACTURER.

SITE INFORMATION

SITE ADDRESS: 39 SANGUINETTI COURT
COPPEROPOLIS, CA 95228-9619
A.P.N. 061-055-002
M.O.R. 7 SUB 45 (LOT 28)
LOT SIZE: 0.50 AC±
ZONING: R1-PD
ELEVATION: 515'±

PROJECT DIRECTORY

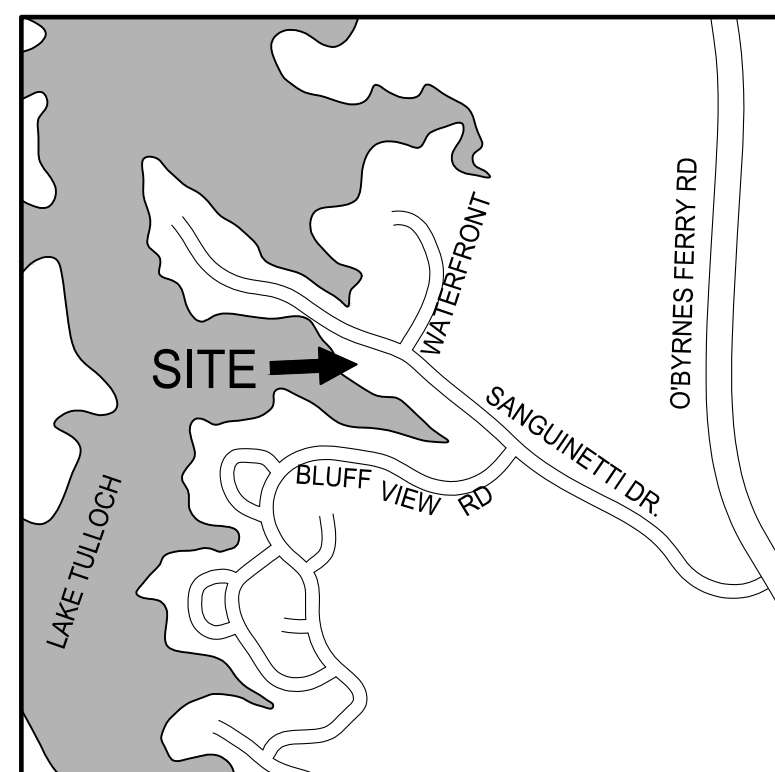
LAND OWNER/APPLICANT:
JONATHAN CLOWARD (209) 495-7664
P.O. BOX 951
RIPON, CA. 95366

LAND SURVEYOR:
RICHARD JAMES (209) 532-5173
LAND & STRUCTURE
105 SOUTH STEWART ST.
SONORA, CA 95370

FERC COMPLIANCE COORDINATOR TRI DAM PROJECT:
TRI-DAM PROJECT (209) 965-3996
P.O. BOX 1158
PINECREST, CA 95364

VICINITY MAP

N.T.S.

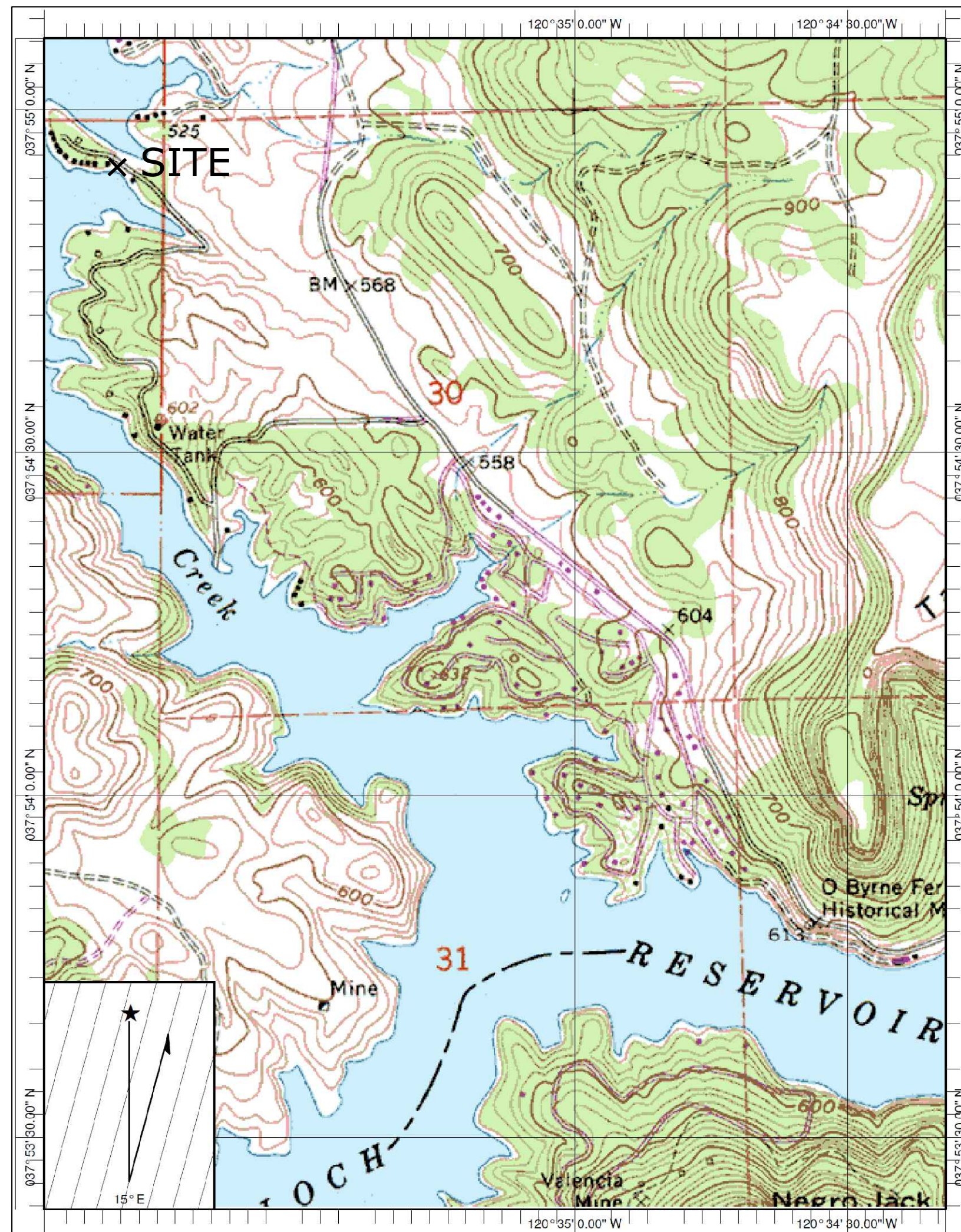


SHEET INDEX

SHEET NO.	TITLE
1	COVER SHEET / SITE INFORMATION
2	AS-BUILT SITE PLAN

USGS: NEW MELONES DAM (PORTION) SCALE 1" = 1,000'

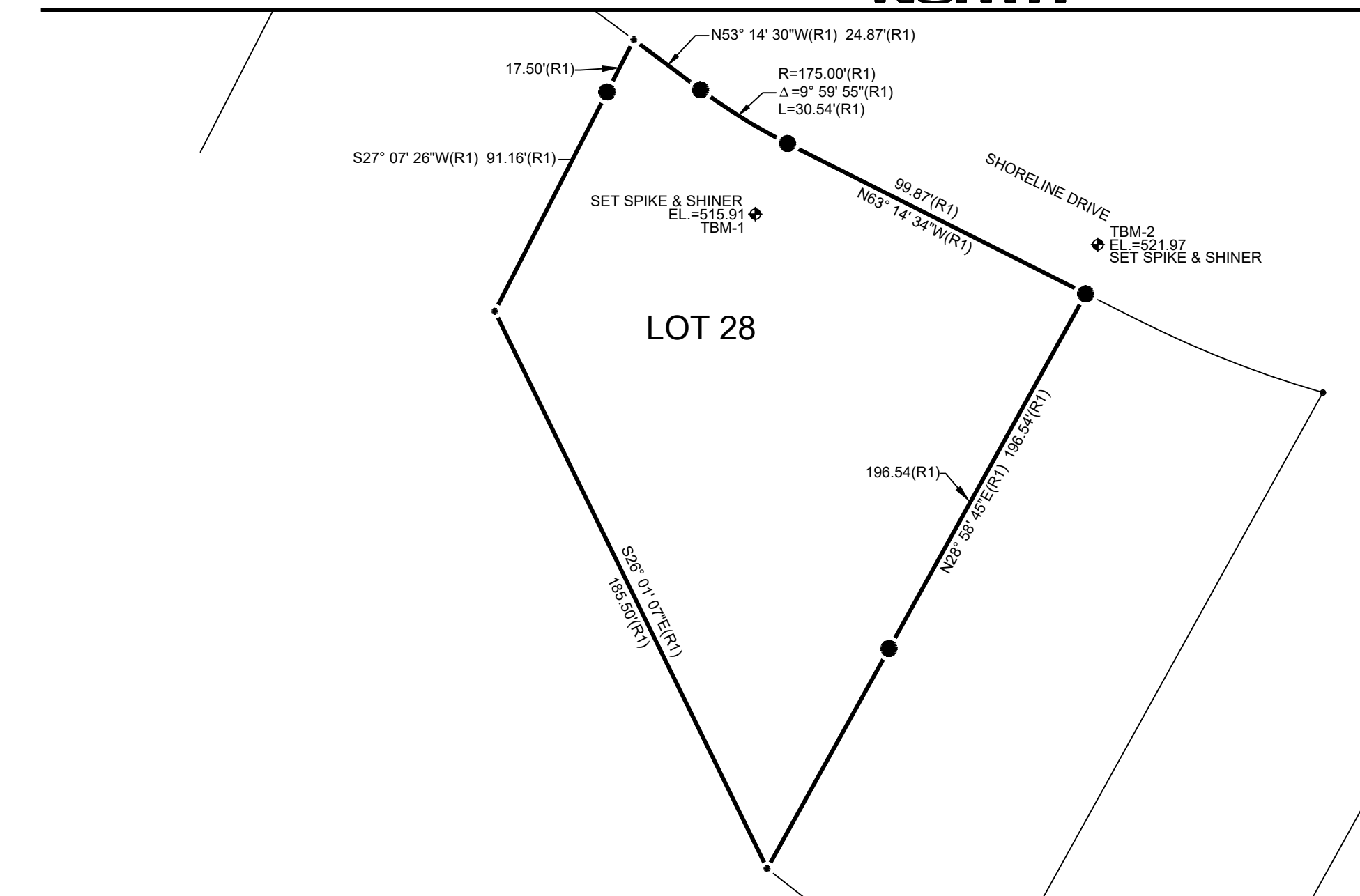
SITE LOCATION: LATITUDE 037°54'32"N LONGITUDE 120°35'52"W
SITE LOCATION IN DECIMAL DEGREES: LATITUDE 37.90889°N LONGITUDE 120.59778°W



SITE BOUNDARY OVERVIEW



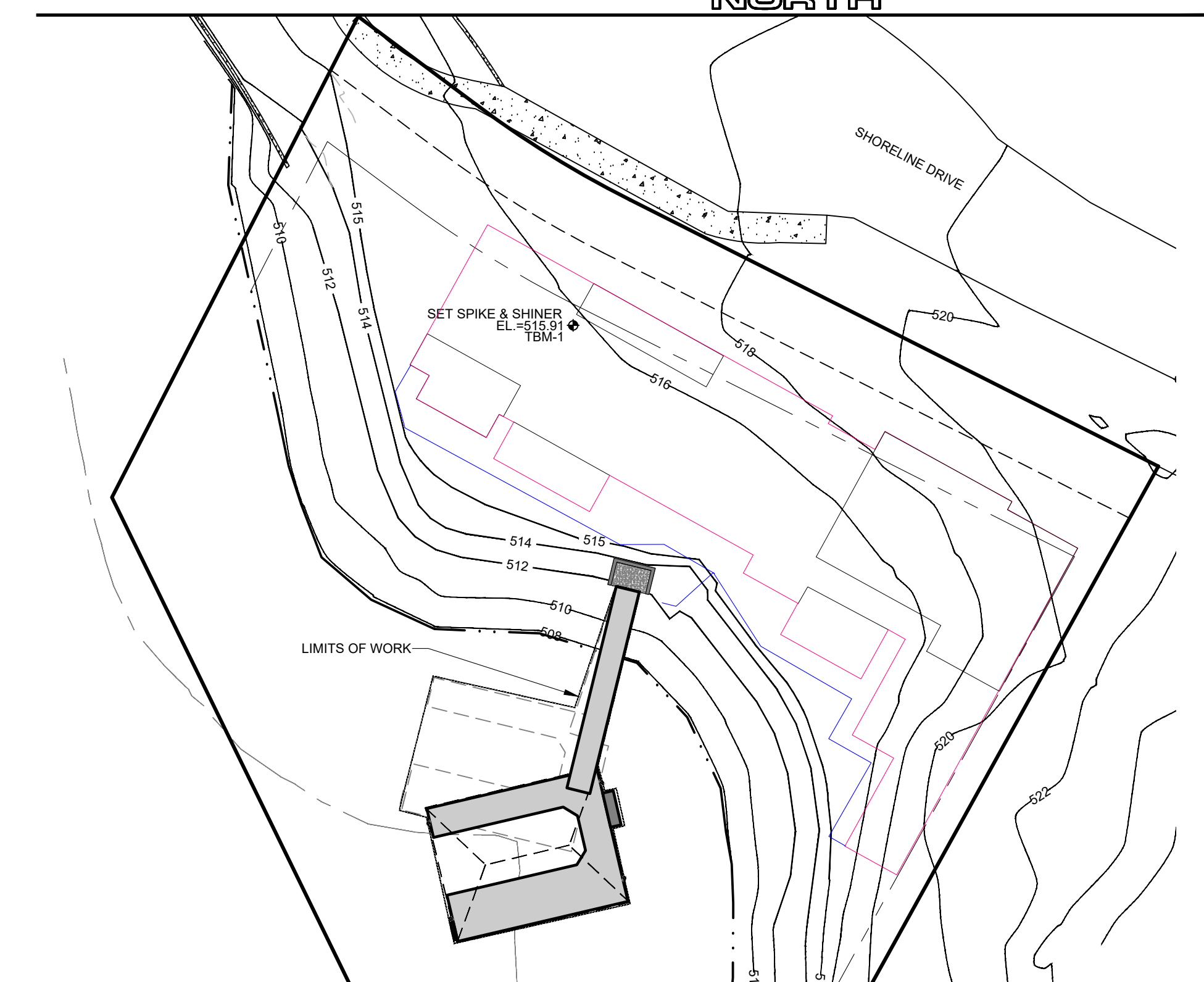
SCALE 1" = 40'



PROJECT LOCATION



SCALE 1" = 20'



REVISIONS:

rev	date	description
1	01/31/2022	added retaining wall
1	08/04/2022	added as-built location of
1	09/21/2022	added boat lift, lighting all solar powered and ladder

OWNER INFORMATION:

Jonathan Cloward
P.O. Box 951
Ripon, CA 95366
Ph: (209) 495-7664

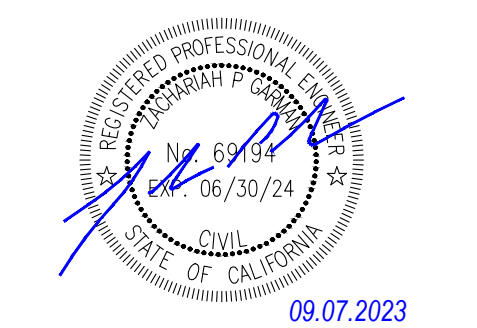
SITE INFORMATION:

APN 061-055-002
39 Sanguinetti Court
Copperopolis, CA 95228

PROJECT INFORMATION:

An As-Built Site Plan for:
Jonathan Cloward
Lot 28 Sanguinetti Court
Copperopolis, CA 95228
Ph (209) 495-7664

ENGINEER OF RECORD:



These drawings and specifications are the property of the surveyor and shall not be used for any other work except by agreement with the surveyor. Within dimensions shall take preference over scale dimensions and shall be verified on site. Any discrepancy shall be brought to the notice of the engineer prior to commencement of any work.

ISSUE DATE: 09/07/2023

DRAWN BY: MBG/TAH

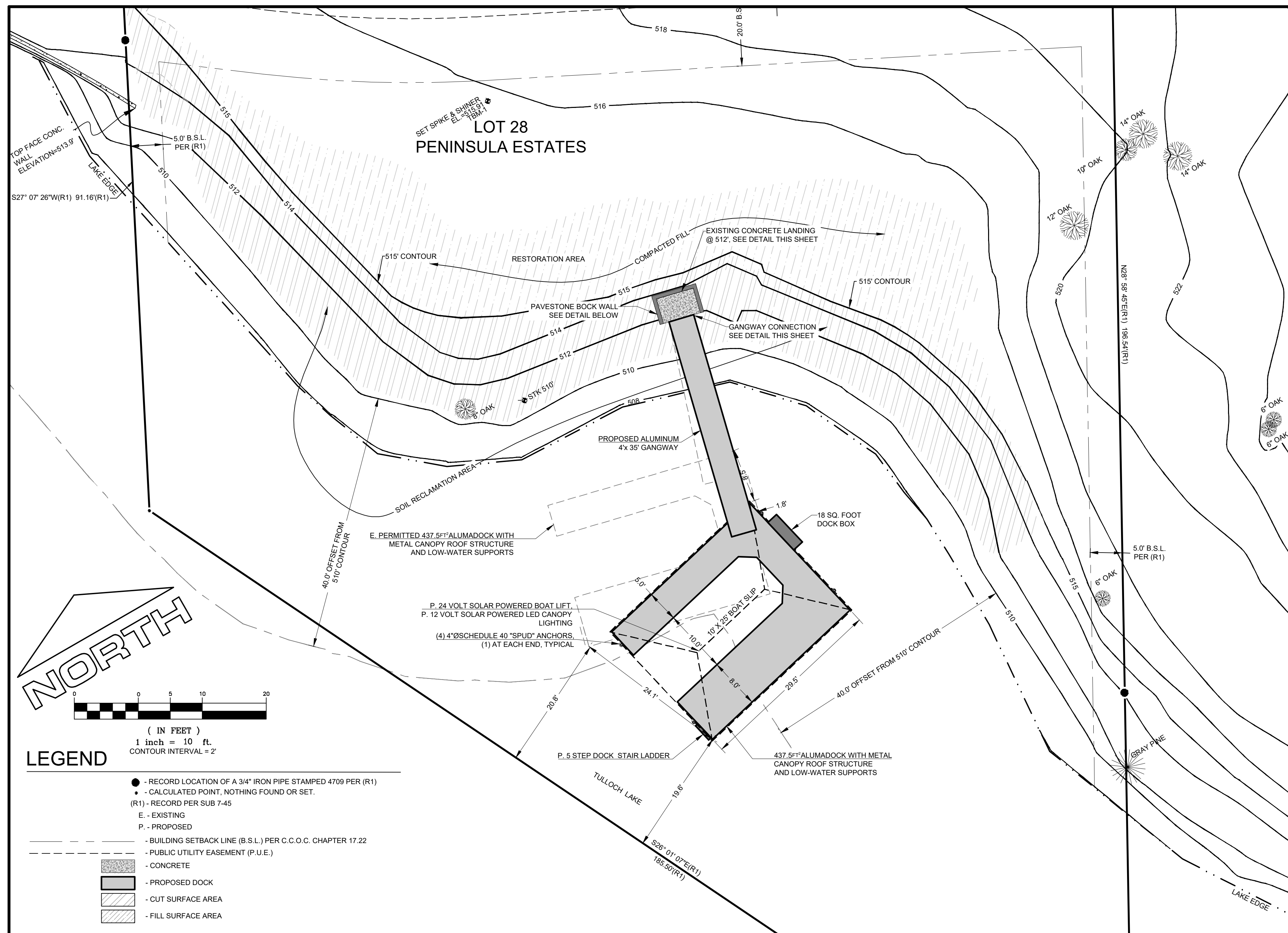
CHECKED BY: ZPG

SCALE: As Noted

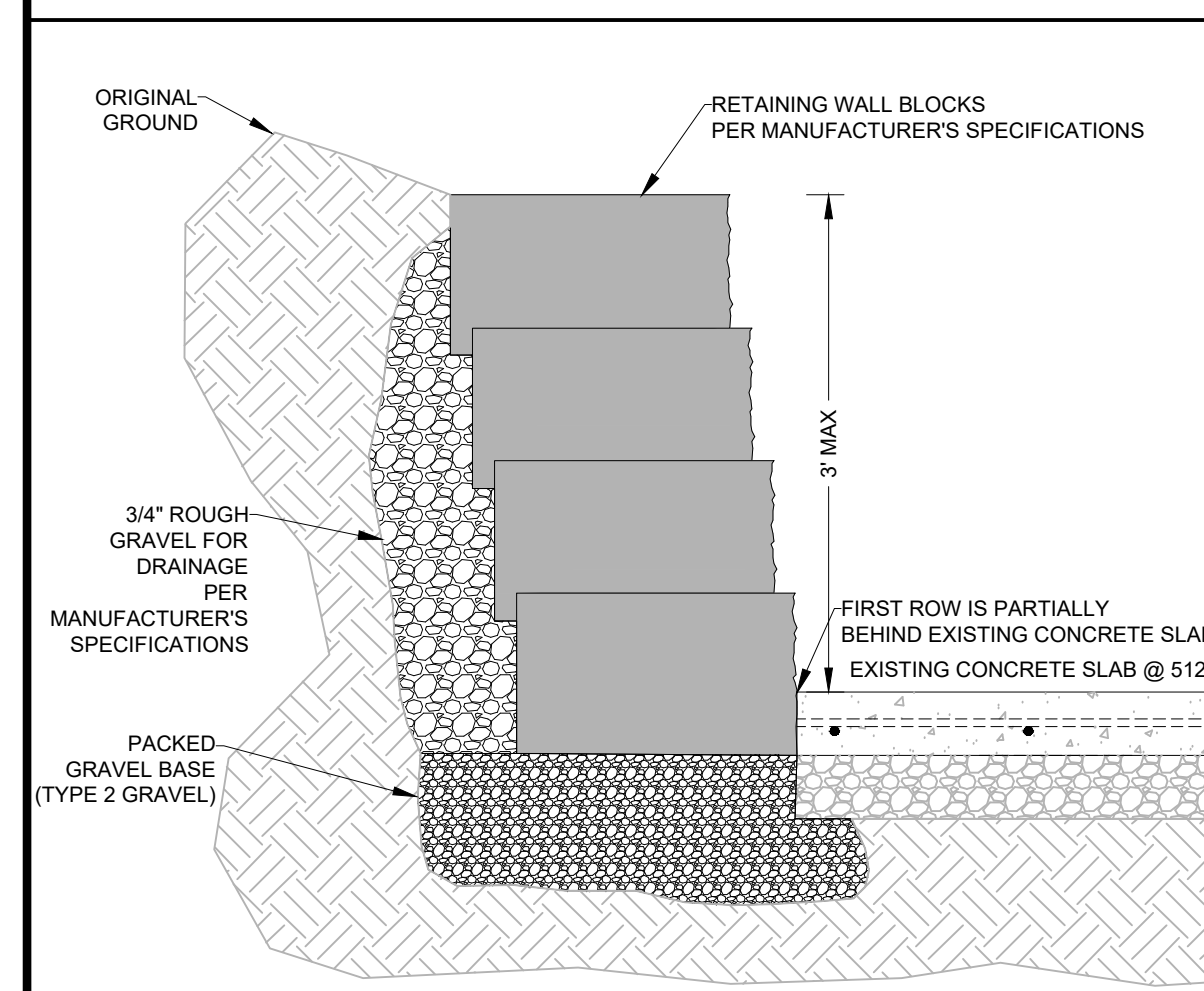
DRAWING: Site Plan

PROJECT NO: 20-08.13

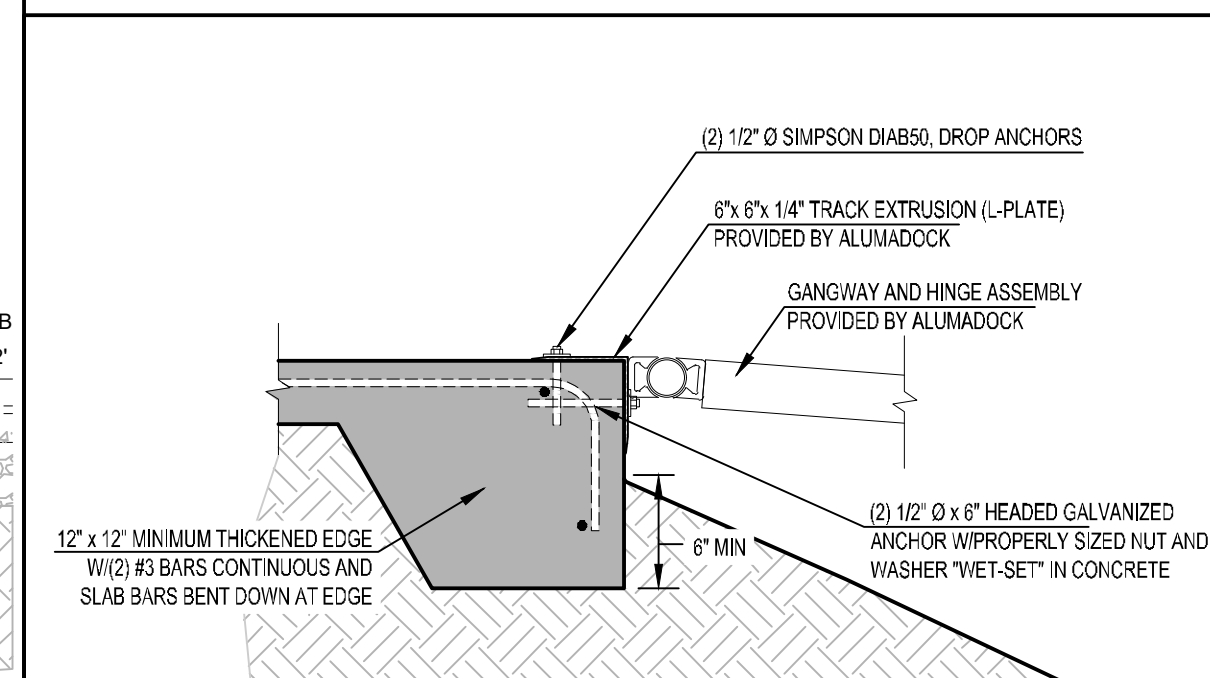
SHEET: 1 OF: 2



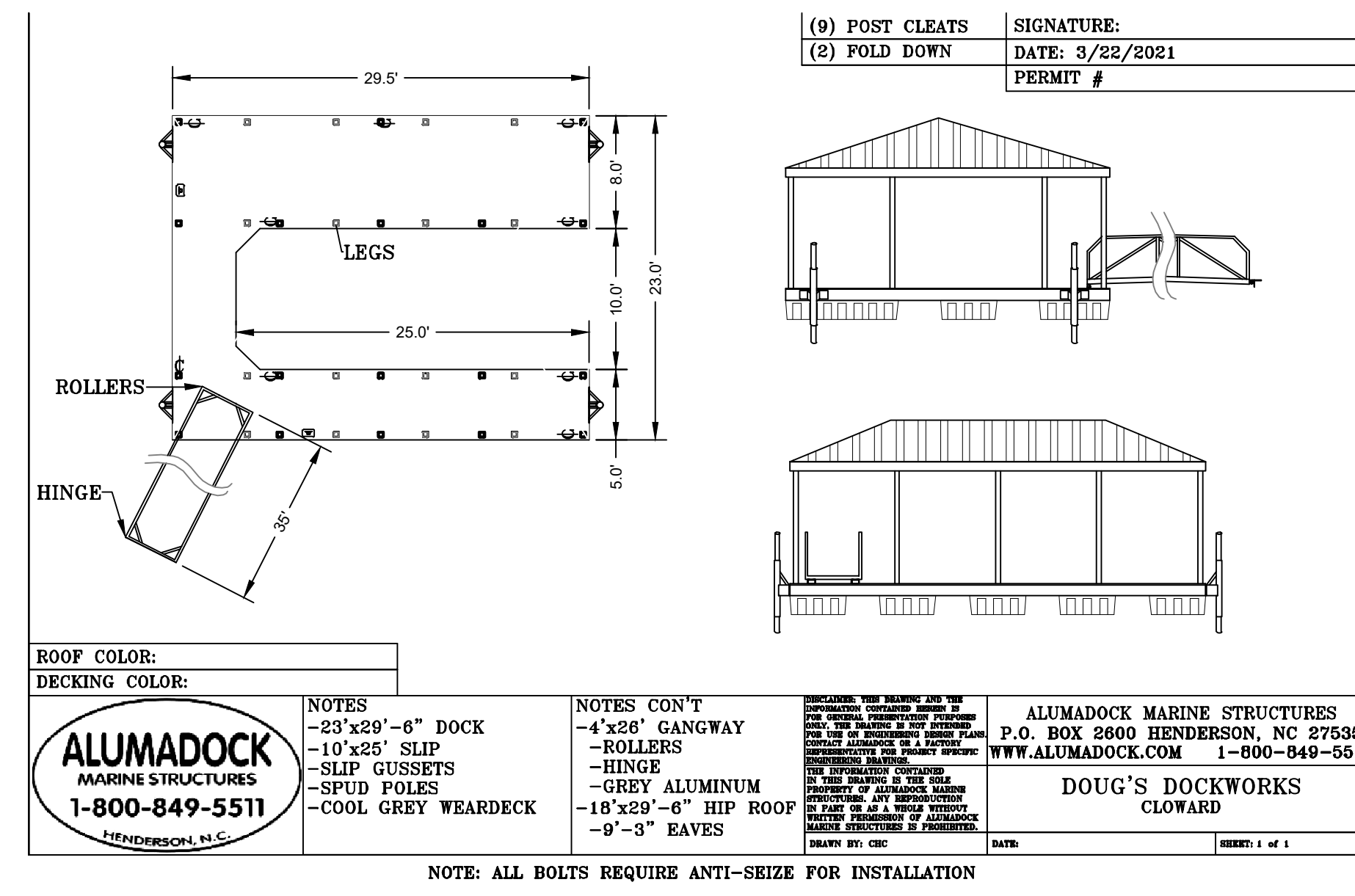
AS-BUILT SITE PLAN



RETAINING WALL DETAIL

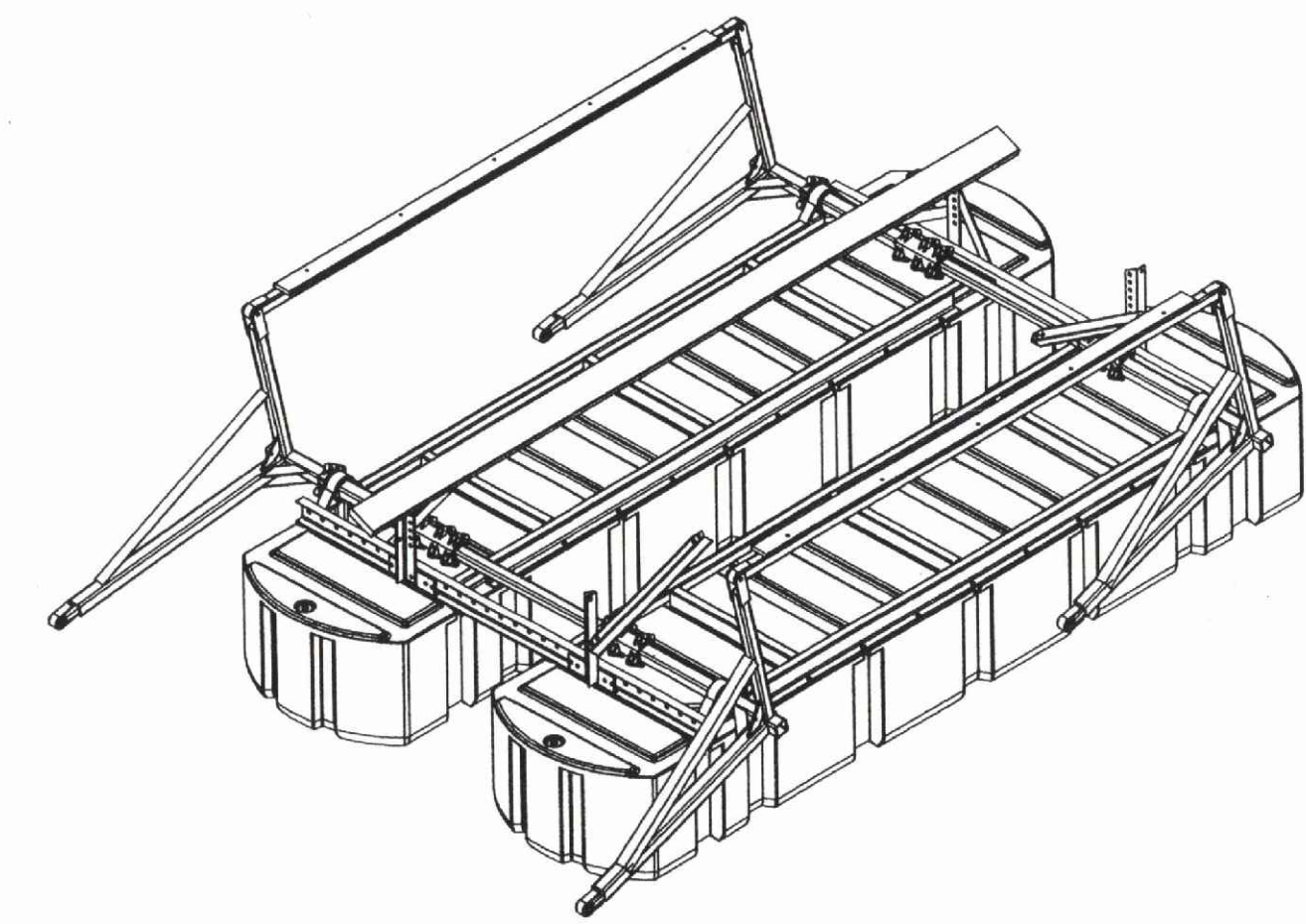


GANGWAY CONNECTION



ROTO LIFT® BOAT LIFT SPECIFICATIONS

PRODUCT	CAPACITY	CONTROL UNIT	SLIP WIDTHS	STANDARD STRUCTURE	STD TANK HEIGHT	QTY TANKS	V-HULL +DRAFT	PTN-HULL +DRAFT	APPROX. WEIGHT
ROTO	3500	CU-RL	8X-14X	9M-4	17-1/2"	2	24"	29"	1700#
ROTO	5000	CU-RL	8X-14X	9M-4	22-1/2"	2	29"	34"	1900#
ROTO	7000	CU-RL	8X-14X	9M-4	27-1/2"	2	34"	39"	2100#
ROTO	7000 SW	CU-RL	10X-14X	11M-4	18"	3	24"	29"	2500#
ROTO	9000	CU-DBLRL	11X-14X	11M-4	22-1/2"	3	29"	34"	2500#
ROTO	11000	CU-DBLRL	11X-14X	11M-4	27-1/2"	3	34"	39"	2700#



1" = 10'

REVISIONS:

rev	date	description
1	01/31/2022	added retaining wall

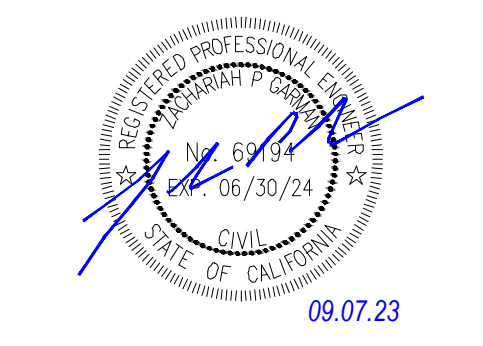
OWNER INFORMATION:
Jonathan Cloward
P.O. Box 951
Ripon, CA 95366
Ph: (209) 495-7664

SITE INFORMATION:
APN 061-055-002
39 Sanguinetti Court
Copperopolis, CA 95228

PROJECT INFORMATION:

An As-Built Site Plan for:
Jonathan Cloward
Lot 28 Sanguinetti Court
Copperopolis, CA 95228
Ph (209) 495-7664

ENGINEER OF RECORD:



ISSUE DATE: 09/07/2023
DRAWN BY: MBG/TAH
CHECKED BY: ZPG
SCALE: 1" = 10'
DRAWING: Site Plan
PROJECT NO: 20-08.13
SHEET: 2 OF 2

Variance Application 2023-33 Cloward

39 Sanguinetti Ct., Copperopolis, CA 95228

Calaveras County APN: 061-055-002

Variance Applicants: Jonathan & Amanda Cloward

Photos taken on October 5th, 2023 at 9:00 AM. The recorded Tulloch Reservoir elevation at this time was 504.76'. Tulloch at full pond is 510'.

Current Dock was authorized under Tulloch Encroachment Permit # 2022-29, 2022-05, 2021-06, 2020-33.



Variance Application 2023-33 Cloward





Subject Property – 39 Sanguinetti Ct.

BOARD AGENDA REPORT

Date: 12/21/2023
Staff: Summer Nicotero

SUBJECT: ACWA 2024 Membership Dues

RECOMMENDED ACTION: Discussion and possible action to approve the 2024 ACWA membership dues

BACKGROUND AND/OR HISTORY:

The Association of California Water Agencies (ACWA) met in September of 2021 to approve a two-year budget, with a rate increase of 3% from 2023 to 2024. These dues are based on operations and maintenance expenses for its public agency members. Membership in ACWA allows Tri-Dam to enroll in their insurance programs, training programs, and to benefit from active lobbying. This year's annual dues are \$23,845.

FISCAL IMPACT: \$23,845 to be paid in January 2024

ATTACHMENTS: ACWA Invoice
ACWA Memorandum

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Weststeyn (Yes/No) Spyksma (Yes/No)

MEMORANDUM

TO: ACWA Public Water Agency Members

FROM: Dave Eggerton, Executive Director

DATE: October 3, 2023

SUBJECT: ACWA's 2024 Membership Dues

At its meeting in September of 2021, the ACWA Board of Directors approved a two-year budget for 2023 and 2024 that protects the financial and operational well-being of the Association while strengthening the long-term health of the organization by paying down ACWA's unfunded pension liability. As we enter the second year of the current two-year budget, I am happy to share that no additional increase is necessary above the 3% that was already approved for 2024.

With the Board's leadership, ACWA is resourced to continue to deliver high-level, effective services for our members, including strong advocacy in Sacramento and Washington D.C., first-class conferences, timely information and communication tools, as well as many other important services. ACWA's financial strategy is guided by our 2020-'24 Five-Year Strategic Plan. The general approach of this strategy is to maintain modest dues increases each year to pay down unfunded liabilities and reduce the need for dramatic increases in membership dues in the future. This budget keeps us on course to strengthen ACWA's long-term financial health.

ACWA's dues are based on the operations and maintenance (O&M) expenses for individual public agency members, which vary from year to year. If there was an increase or decrease in your agency's O&M expenses, your dues may be adjusted based on that change. **If you have questions related to your agency's dues calculation, please contact ACWA Accountant Steven Carr at (916) 669-2443 or stevenc@acwa.com.**

To view ACWA's full 2024 dues schedule, please visit www.acwa.com.

We value your participation in ACWA and thank you for your membership. ACWA's voice and influence is enhanced with each and every member. Your dues contribution allows ACWA to provide high-quality benefits and services, such as:

- A statewide voice on behalf of California water agencies on key state and federal legislative and regulatory water issues.
- Advocacy to protect and strengthen California's water rights system to support a sustainable and reliable water supply for Californians.



Bringing
Water
Together

TRI-DAM PROJECT
2023 OCT -6 PM 1: 22

Date: October 4, 2023

Tri-Dam Project
P.O. Box 1158
Pinecrest, CA 95364

2024 Annual Agency Dues	\$23,845.00
Total Amount Due	\$23,845.00

Thank you for your continued support with ACWA. Please remit payment by **January 31, 2024**.

ACH Payment Information: Wells Fargo Bank
Routing #: 121042882
Checking Acct #: 6071344052

*****MEMBERSHIP DUES*****MEMBERSHIP DUES*****

Association of California Water Agencies
2024 Member Dues Calculation

Date: October 4, 2023

Name: Tri-Dam Project

(1) Operating Expenses \$11,781,607.00

(2) All Other Expenses

(3) Total Expenses **\$11,781,607.00**

<<< LESS >>>

(4) Purchased Power

(5) Water Purchases

(6) Groundwater Replenishment

(7) Depreciation \$2,311,240.00

(8) Fixed Assets

(9) Total Adjusted Expenses **\$9,470,367.00**

<<< LESS >>>

(10) Pumping

(11) Total Expenses Adjusted For Pumping **\$9,470,367.00**

(12) Line 11 times 2 \$18,940,734.00

(13) Dues O&M (lessor of line 9 or 12) **\$9,470,367.00**

DUES AMOUNT **\$23,845.00**

*** THIS IS NOT A BILL – PLEASE DO NOT PAY FROM THIS WORKSHEET ***

BOARD AGENDA REPORT

Date: 12/21/2023
Staff: Summer Nicotero

SUBJECT: Fiscal Year 2024 Proposed Budget

RECOMMENDED ACTION: Review and Take Possible Action to Approve and Adopt the 2024 Budget for the Tri Dam Project

BACKGROUND AND/OR HISTORY:

Planning, budgeting, and forecasting are all part of a three-step process for determining and detailing an organization's long-term and short-term financial goals. A budget is an estimate of revenues and expenses for a set period of time which forecasts future financial conditions and goals for an organization. The budget serves as a plan of action for achieving quantified objectives and a standard of measuring performance. Budget development is a year-long process. Once adopted, staff tracks expenses on a real-time basis and compare those actual expenses to the budget over the course of the year.

Due to the absence of a Finance Manager at the Tri-Dam entities, the General Manager developed the proposed budget with the support of the Interim Finance Manager.

The Fiscal Year 2024 Budget was developed based on the minimum estimates from the models used to develop our Power Purchase Agreement. Our new contract with SVP goes into effect in January of 2024. Our price per MWh at Donnells will increase to \$81 and to \$86 for all other plants. In addition, we expect approximately \$800K in ancillary services revenue and approximately \$8.0M in resource adequacy revenue resulting in an increase of \$7M over prior year budget.

The operating budget reflects an overall increase of \$462K. The main drivers are increased payroll expense (\$179K), the addition of consulting support from a Chief Dam Safety Engineer (\$300K), additional road repair expenses (\$178K), and insurance premiums (\$532K) offset by reductions in Fish Studies (\$617K) and FERC requirements (\$215K).

Non-operating revenue reflects an increase of approximately \$1.7M. This increase is mainly due to anticipated FEMA reimbursement for the storm damaged road repairs (\$1.5M).

The capital budget has increased by approximately \$2.5 million over prior year amended budget mainly due to the new headquarters and projects approved in 2023 carrying over into 2024.

FISCAL IMPACT: None

ATTACHMENTS: Proposed 2024 Budget

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Holmes (Yes/No) Kamper (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

TRI-DAM PROJECT



2024 PROPOSED BUDGET

TRI-DAM PROJECT POSITION LIST

	2023 Staffing	2024 Staffing	Change in Staffing
Administration & Finance			
General Manager	1.0	1.0	0.0
Finance Manager	1.0	1.0	0.0
Admin & Finance Assistant	1.0	1.0	0.0
Finance Clerk	1.0	1.0	0.0
License & Compliance Coordinator	1.0	1.0	0.0
Total Administration & Finance	5.0	5.0	0.0
Operations & Maintenance			
Operations & Maintenance Manager	1.0	1.0	0.0
Operations			
Lead Operator	1.0	1.0	0.0
Operators	4.0	4.0	0.0
Relief Operator	2.0	2.0	0.0
Roving Operator	2.0	2.0	0.0
Maintenance			
Maintenance Lead	1.0	1.0	0.0
Technician Journeyman	2.0	2.0	0.0
Technician Crew Leader	1.0	1.0	0.0
Equipment Operator	1.0	1.0	0.0
Electrician Journeyman	1.0	1.0	0.0
Electrical Machinist	1.0	1.0	0.0
Machinist Mechanic Journeyman	1.0	1.0	0.0
Hydro Mechanic	1.0	1.0	0.0
Laborer	2.0	2.0	0.0
Total Operations & Maintenance	21.0	21.0	0.0
TOTAL STAFFING	26.0	26.0	0.0



Tri-Dam Project 2024 Proposed Budget

	2021 Actual	2022 Actual	Amended 2023 Budget	2023 Projection	2024 Proposed Budget	Change from 2023 Amended Budget	Change from 2023 Projection		
Operating Revenues									
1	\$ 23,687,766	27,782,378	26,000,000	\$ 49,200,000	\$ 32,900,000	\$ 6,900,000	27%	\$ (16,300,000)	-33%
2	376,770	397,836	360,000	400,000	416,000	56,000	16%	16,000	4%
3	24,064,536	28,180,214	26,360,000	49,600,000	33,316,000	6,956,000	26%	(16,284,000)	-33%
Operating Expenses									
4	2,198,025	2,248,850	2,688,100	2,000,566	2,795,624	107,524	4%	795,058	40%
5	(507,942)	3,865,338	1,783,900	1,443,063	1,855,256	71,356	4%	412,193	29%
6	689,869	851,687	1,037,500	852,678	1,233,150	195,650	19%	380,472	45%
7	546,719	711,785	1,669,880	1,449,153	1,865,000	195,120	12%	415,847	29%
8	2,907,499	2,845,042	3,190,700	2,495,495	3,002,500	(188,200)	-6%	507,005	20%
9	2,122,667	2,311,361	2,250,000	2,252,000	2,331,000	81,000	4%	79,000	4%
10	7,956,837	12,834,063	12,620,080	10,492,954	13,082,530	462,450	4%	2,589,576	25%
11	16,107,699	15,346,151	13,739,920	39,107,046	20,233,470	6,493,550		(18,873,576)	
Nonoperating Revenues (Expenses)									
13	-	2,150,500	-	-	-	-	0%	-	0%
14	149,546	-	-	-	-	-	0%	-	0%
15	178,731	156,021	200,000	200,000	200,000	-	0%	-	0%
16	(25,840)	(242,615)	133,000	171,730	314,000	181,000	136%	142,270	83%
17	23,550	29,250	14,000	35,000	25,000	11,000	79%	(10,000)	-29%
18	88,771	89,356	98,000	108,970	100,000	2,000	2%	(8,970)	-8%
19	198,780	212,058	240,000	200,000	1,750,000	1,510,000	629%	1,550,000	775%
20	24,048	26,078	-	51,437	-	-	0%	(51,437)	-100%
21	28,568	8,416	10,000	8,683	9,000	(1,000)	-10%	317	4%
22	666,154	2,429,064	695,000	775,820	2,398,000	1,703,000	245%	1,622,180	209%
22	\$ 16,773,853	\$ 17,775,215	\$ 14,434,920	\$ 39,882,866	\$ 22,631,470	\$ 8,196,550	57%	\$ (17,251,396)	-43%



Tri-Dam Project Detailed Revenues 2024 Proposed Budget

	2021 Actual	2022 Actual	Amended 2023 Budget	2023 Projection	2024 Proposed Budget	Change from 2023 Adopted Budget		Change from 2023 Projection	
Operating Revenues									
1 Power Sales	\$ 23,687,766	\$ 27,782,378	\$ 26,000,000	\$ 49,200,000	\$ 32,900,000	6,900,000	27%	(16,300,000)	-33%
2 Headwater Benefit	376,770	397,836	360,000	400,000	416,000	56,000	16%	16,000	4%
3 Total Operating Revenues	24,064,536	28,180,214	26,360,000	49,600,000	33,316,000	6,956,000	26%	(16,284,000)	-33%
Nonoperating Revenues (Expenses)									
4 Lawsuit Settlement Proceeds	-	2,150,500	-	-	-	-	0%	-	0%
5 Grant Revenue	149,546	-	-	-	-	-	0%	-	0%
6 Water Sales	178,731	156,021	200,000	200,000	200,000	-	0%	-	0%
7 Interest Income	17,444	98,631	32,000	482,730	483,000	451,000	1409%	270	0%
8 Investment Earnings	18,719	275,565	121,000	(17,000)	(149,000)	(270,000)	-223%	(132,000)	776%
9 Change in Market Value of Investments	(52,240)	(597,618)	-	(275,000)	-	-	0%	275,000	-100%
10 Tulloch Encroachment Permits	23,550	29,250	14,000	35,000	25,000	11,000	79%	(10,000)	-29%
11 Equipment Rental Income	2,400	26,400	27,000	27,000	28,000	1,000	4%	1,000	4%
12 Rental Income- Strawberry Peak	39,813	25,646	30,000	31,500	31,000	1,000	3%	(500)	-2%
13 Rental Income- Mt. Elizabeth	46,558	37,310	41,000	50,470	41,000	-	0%	(9,470)	-19%
14 Reimbursements/Govt Entities	198,780	212,058	240,000	200,000	1,750,000	1,510,000	629%	1,550,000	775%
15 Gain/(Loss) on Asset Disposal	24,048	26,078	-	51,437	-	-	0%	(51,437)	-100%
16 Other Nonoperating Revenue	28,568	8,416	10,000	8,683	9,000	(1,000)	-10%	317	4%
Total Nonoperating Revenues (Expenses)	675,917	2,448,257	715,000	786,137	2,409,000	1,704,000	238%	1,622,863	206%
Total Revenues	\$ 24,740,453	\$ 30,628,471	\$ 27,075,000	\$ 50,386,137	\$ 35,725,000	\$ 8,660,000	32%	\$ (14,661,137)	-29%



Tri-Dam Project Expense Summary 2024 Proposed Budget

	2021 Actual	2022 Actual	Amended 2023 Budget	2023 Projection	2024 Proposed Budget	Change from 2023 Amended Budget		Change from 2023 Projection		
Expenses by Function										
1	Operations	2,683,700	2,555,667	2,334,800	2,212,678	2,582,342	247,542	11%	369,664	17%
2	Maintenance	2,176,619	2,153,398	3,523,880	2,545,463	3,793,160	269,280	8%	1,247,697	49%
3	General & Administrative	973,851	5,813,637	4,511,400	3,482,812	4,376,028	(135,372)	-3%	893,216	26%
4	Depreciation	1,889,135	2,076,903	2,000,000	2,017,000	2,090,000	90,000	5%	73,000	4%
5	Amortization	233,532	234,458	250,000	235,000	241,000	(9,000)	-4%	6,000	3%
6	Total Expenses	<u>7,956,837</u>	<u>12,834,063</u>	<u>12,620,080</u>	<u>10,492,954</u>	<u>13,082,530</u>	<u>462,450</u>	<u>4%</u>	<u>2,589,576</u>	<u>25%</u>
Nonoperating Expenses										
7	Investment Expenses	9,763	19,193	20,000	19,000	20,000	-	0%	1,000	5%
	Total NoOp Revenues (Expenses)	<u>9,763</u>	<u>19,193</u>	<u>20,000</u>	<u>19,000</u>	<u>20,000</u>	<u>-</u>	<u>0%</u>	<u>1,000</u>	<u>5%</u>
	Total Expenses	<u>\$ 7,966,600</u>	<u>\$ 12,853,256</u>	<u>\$ 12,640,080</u>	<u>\$ 10,511,954</u>	<u>\$ 13,102,530</u>	<u>\$ 462,450</u>	<u>4%</u>	<u>\$ 2,590,576</u>	<u>25%</u>



Tri-Dam Project Operations Department Expenses 2024 Proposed Budget

	2021 Actual	2022 Actual	Amended 2023 Budget	2023 Projection	2024 Proposed Budget	Change from 2023 Adopted Budget		Change from 2023 Projection		
Operations Summary										
1	Salaries and Wages	1,191,069	1,168,045	864,700	970,000	899,288	34,588	4%	(70,712)	-7%
2	Benefits and Overhead	802,762	535,935	432,600	390,000	449,904	17,304	4%	59,904	15%
	Operations Dept Labor Exp	1,993,831	1,703,980	1,297,300	1,360,000	1,349,192	51,892	4%	(10,808)	-1%
3	Interconnection Expense 3rd Unit	2,019	2,019	2,400	2,020	2,400	-	0%	380	19%
4	Powerhouse & Dam utilities	30,570	59,968	51,700	40,000	45,000	(6,700)	-13%	5,000	13%
5	Dam Monitoring / Surveying	11,000	7,351	11,900	11,000	15,000	3,100	26%	4,000	36%
6	Powerhouse & Dam Supplies	4,762	2,020	5,700	5,000	6,000	300	5%	1,000	20%
7	Furnishings & Misc Equipment	1,743	553	2,000	1,000	1,000	(1,000)	-50%	-	0%
8	Safety Supplies	14,864	13,534	17,900	14,500	18,000	100	1%	3,500	24%
9	Site Utilities - (ME,SP,DP only)	44,666	50,845	61,900	49,709	60,000	(1,900)	-3%	10,291	21%
10	Travel & Conference - Ops	3,125	17,596	40,000	25,000	55,000	15,000	38%	30,000	120%
11	Dam safety fees	235,657	262,189	275,000	302,810	330,000	55,000	20%	27,190	9%
12	FERC Admin & Land Fees	170,571	181,018	248,000	146,071	200,000	(48,000)	-19%	53,929	37%
13	Streamgaging	73,425	74,325	80,000	75,000	75,000	(5,000)	-6%	-	0%
14	Streamgaging Certification	52,214	52,749	55,000	55,000	57,750	2,750	5%	2,750	5%
15	USFS permit fees	12,775	75,172	14,000	14,068	16,000	2,000	14%	1,932	14%
16	Operations Consulting	31,570	51,651	170,000	110,000	350,000	180,000	106%	240,000	218%
17	Small Tools	908	698	2,000	1,500	2,000	-	0%	500	33%
	Non-Labor Operations Exp	689,869	851,687	1,037,500	852,678	1,233,150	195,650	19%	380,472	45%
	Total Operations Dept Exp	2,683,700	2,555,667	2,334,800	2,212,678	2,582,342	247,542	11%	369,664	17%



Tri-Dam Project Maintenance Department Expenses 2024 Proposed Budget

	2021 Actual	2022 Actual	Amended 2023 Budget	2023 Projection	2024 Proposed Budget	Change from 2023 Adopted Budget		Change from 2023 Projection		
Maintenance Summary										
1	Salaries and Wages	987,558	1,025,577	1,225,200	783,248	1,274,208	49,008	4%	490,960	63%
2	Benefits and Overhead	642,342	416,036	628,800	313,063	653,952	25,152	4%	340,889	109%
	Maintenance Dept Labor Exp	1,629,900	1,441,613	1,854,000	1,096,311	1,928,160	74,160	4%	831,849	76%
3	Safety Supplies	13,817	26,892	34,200	15,000	40,000	5,800	17%	25,000	167%
4	Structure/Facilities/Plants	152,991	96,098	115,000	160,000	150,000	35,000	30%	(10,000)	-6%
5	Electrical & Electronic Expense	11,722	15,815	33,750	27,000	30,000	(3,750)	-11%	3,000	11%
6	Site Improvements - DP,SP,ME	732	826	1,100	1,000	1,500	400	36%	500	50%
7	Computers Supplies & Support	16,165	271	27,825	15,000	35,000	7,175	26%	20,000	133%
8	Mobile Radio Repair & Replace	-	-	1,000	642	1,000	-	0%	358	56%
9	Coms, Micro & Security Systems	43,551	64,180	67,450	65,000	75,000	7,550	11%	10,000	15%
10	Routine Road Maintenance	2,359	87,932	40,000	1,000	40,000	-	0%	39,000	100%
11	Travel & Training	9,972	10,857	40,000	31,092	55,000	15,000	38%	23,908	77%
12	Reservoir Management	16,019	6,475	30,000	5,500	20,000	(10,000)	-33%	14,500	264%
13	Engineering and Consulting	-	1,897	4,500	2,000	5,000	500	11%	3,000	150%
14	Rolling Stock Maintenance & Repair	84,764	94,096	145,300	130,000	140,000	(5,300)	-4%	10,000	8%
15	Shop Supplies	23,565	20,512	25,630	18,000	20,000	(5,630)	-22%	2,000	11%
16	Small Tools	27,229	26,240	25,000	8,000	15,000	(10,000)	-40%	7,000	88%
17	Miscellaneous Equipment	10,804	10,883	14,735	10,000	12,000	(2,735)	-19%	2,000	20%
18	Disposal Fees	6,471	10,708	13,855	7,232	8,500	(5,355)	-39%	1,268	18%
19	Fuel Expense	106,337	144,842	171,395	145,686	160,000	(11,395)	-7%	14,314	10%
20	Equipment Operation & Maintenance	5,220	15,282	7,140	7,000	7,000	(140)	-2%	-	0%
21	Major Road Repairs	15,001	77,980	672,000	800,000	850,000	178,000	26%	50,000	6%
22	FERC Gate Inspections	-	-	200,000	-	200,000	-	0%	200,000	100%
		546,719	711,785	1,669,880	1,449,153	1,865,000	195,120		415,847	
	Maintenance Dept Expenses	2,176,619	2,153,398	3,523,880	2,545,463	3,793,160	269,280		1,247,697	



Tri-Dam Project Administration Department Expenses 2024 Proposed Budget

		2021	2022	Amended	2023 Actuals		2024	Change from 2023		Change from 2023	
		Actual	Actual	2023	Through	2023	Proposed	Change from 2023	Change from 2023	Change from 2023	Change from 2023
				Budget	10/31/2023	Projection	Budget	Adopted Budget	Adopted Budget	Projection	Projection
Administration Summary											
1	Salaries and Wages	19,398	55,228	598,200	206,098	247,317	622,128	23,928	4%	374,811	152%
2	Benefits and Overhead	(1,953,046)	2,913,367	722,500	645,416	740,000	751,400	28,900	4%	11,400	2%
	Administration Dept Labor Exp	(1,933,648)	2,968,595	1,320,700	851,514	987,317	1,373,528	52,828	4%	386,211	39%
3	Resource Mgmt USFS Beardsley	164,379	-	175,000	-	-	162,000	(13,000)	-7%	162,000	100%
4	Professional Services Consulting	-	73,122	56,600	101,446	135,000	125,000	68,400	121%	(10,000)	-7%
5	Office & Administrative expense	34,423	41,596	36,500	33,113	36,500	45,000	8,500	23%	8,500	23%
6	Leased Equipment Expense	-	(40)	6,500	2,953	3,937	3,500	(3,000)	-46%	(437)	-11%
7	Professional Dues & Subscriptions	22,989	32,483	35,000	27,955	35,000	35,000	-	0%	-	0%
8	Utilities - Administrative	51,577	52,239	51,000	45,630	60,840	70,000	19,000	37%	9,160	15%
9	Travel & Conference - Admin & Districts	8,663	5,100	24,000	11,083	14,000	20,000	(4,000)	-17%	6,000	43%
10	Meals	6,213	5,560	6,500	2,345	3,500	6,500	-	0%	3,000	86%
11	Drug Testing & Physicals	1,955	184	2,000	2,537	3,000	3,000	1,000	50%	-	0%
12	Computers, Related Supplies & Support	2,997	6,024	12,500	3,854	5,000	15,000	2,500	20%	10,000	200%
13	Telephone	47,056	56,221	62,000	16,429	18,000	5,000	(57,000)	-92%	(13,000)	-72%
14	Data Communication Services	4,351	4,639	5,900	3,523	10,000	40,000	34,100	578%	30,000	300%
15	Website & Network Operation & Maint	54,059	35,231	40,000	43,658	45,000	65,000	25,000	63%	20,000	44%
16	Legal fees - general matters	216,730	314,741	350,000	86,941	100,000	350,000	-	0%	250,000	250%
17	Reservoir management - Admin	-	913	-	-	-	-	-	0%	-	0%
18	Auditing services	15,944	11,560	12,500	13,875	13,875	15,000	2,500	20%	1,125	8%
19	Special Consultants/Resource Plans	-	12,867	-	-	-	-	-	0%	-	0%
20	Accounting & Payroll Software	22,151	11,629	12,000	12,211	12,500	13,500	1,500	13%	1,000	8%
21	FERC Part 12 Inspections	75,815	259,841	215,000	13,735	13,735	-	(215,000)	-100%	(13,735)	-100%
22	Tulloch Shoreline Erosion Plan	-	-	250	500	-	-	(250)	-100%	-	0%
23	Tulloch Shoreline Management Plan	-	-	20,000	-	-	-	(20,000)	-100%	-	0
24	FERC Cultural Resources	48,660	34,705	24,700	4,574	4,574	10,000	(14,700)	-60%	5,426	119%
25	Fish Study Pubs/Non-Native/Chinook	824,968	787,879	922,000	559,556	765,000	305,000	(617,000)	-67%	(460,000)	-60%
26	USBR Pln of Opr & SWRCB	422,599	-	200,000	149,006	229,006	200,000	-	0%	(29,006)	-13%
27	Labor Relations	-	-	35,000	-	-	60,000	25,000	71%	60,000	100%
28	Insurance premiums	642,370	675,097	693,000	827,026	830,000	1,225,000	532,000	77%	395,000	48%
29	Property and use taxes	16,781	9,760	12,000	20,624	22,000	26,000	14,000	117%	4,000	18%
30	Stanislaus River Basin Plan	13,255	-	-	-	-	-	-	0%	-	0%
31	State Water Rights Fees	35,271	42,989	35,750	18,915	38,415	40,000	4,250	12%	1,585	4%
32	FERC Headwater benefit assessment	105,713	92,799	90,000	69,000	92,000	93,000	3,000	3%	1,000	1%
33	EAP & Other Plan Updates	5,519	1,675	25,000	-	-	50,000	25,000	100%	50,000	100%
34	Legal - District Water Rights	63,061	276,229	30,000	4,613	4,613	20,000	(10,000)	-33%	15,387	334%
		<u>2,907,499</u>	<u>2,845,042</u>	<u>3,190,700</u>	<u>2,075,100</u>	<u>2,495,495</u>	<u>3,002,500</u>	<u>(188,200)</u>	<u>-6%</u>	<u>507,005</u>	<u>20%</u>
	Administrative Dept Expenses	<u>973,851</u>	<u>5,813,637</u>	<u>4,511,400</u>	<u>2,926,614</u>	<u>3,482,812</u>	<u>4,376,028</u>	<u>(135,372)</u>	<u>-3%</u>	<u>893,216</u>	<u>26%</u>

Tri-Dam Project Capital Expenditures 2024 Proposed Budget

EXPENDITURE	LOCATION	2023 AMENDED BUDGET	2023 PROJECTION	PROPOSED BUDGET 2024	BUDGET 2025
1 Spare SS Transformer 480V-240V	Equipment	5,000	-	-	-
2 Beardsley water tank	Beardsley PH	100,000	25,693	-	-
3 Equipment-Milling Machine	Beardsley SC	30,000	14,557	-	-
4 Equipment-Trucks (4) - 1 tons	Vehicle	495,000	414,583	-	-
5 Equipment-Replacement GM Vehicle	Vehicle	65,000	65,000	-	-
6 Goodwin Upgrade SCADA RTU / RTAC	Goodwin	25,000	-	-	-
7 Blk Crk Gate & Pole replacement	Black Creek	7,500	28,349	-	-
8 Scale-SF6Gas (Digital Dynamometer)	Equipment	6,800	7,133	-	-
9 Equipment-Boat Motor-DDM	Equipment	5,000	-	-	-
10 Equipment- Forklift for Strawberry	Equipment	40,000	36,258	-	-
11 Equipment- Truck Replc F450 Intl Dump Truck	Equipment	120,000	119,520	-	-
12 Donnells Gov. Upgrade to new Hardware	Donnells	10,000	61	-	-
13 GM House Deck, Flooring and Exterior Improvements	Strawberry	20,000	57,873	-	-
14 Gov. Modernization change to Woodward	Beardsley PH	10,000	1,871	-	-
15 Donnells Log Booms	Donnells	25,000	18,313	-	-
16 Cyberlock Project	Various	50,000	106,272	45,000	-
17 Lowe Boat Motor Replacement	Equipment	11,191	-	11,191	-
18 Spare MCC Beardsley, Donnells & Tulloch	Various	-	21,038	-	-
19 Generator Building	Beardsley SC	-	54,649	-	-
20 Controls Network Switches Upgrade	Various	45,000	-	50,000	-
21 Tulloch Powerhouse Control Room HVAC	Tulloch PH	12,000	-	12,000	-
22 Pressure Relief Valve	Beardsley	-	27,132	-	-
23 Upgrade SCADA RTU / RTAC/ RTU Migration	Various	170,000	170,776	30,000	-
24 Beardsley Dam Gate 1 Trunnion Pin Repair	Beardsley	306,000	-	306,000	-
25 Division Tower and Comm site install	Division Point	400,000	-	400,000	-
26 O'Byrnes (Tulloch) Recreation Site	Tulloch Reservoir	100,000	125,470	100,000	-
27 Tulloch skimmer Gate actuator	Tulloch	35,000	-	50,000	-
28 Donnells Solar Power Supply (engineering, etc.)	Donnells	88,000	-	100,000	-
29 Equipment-Manlift	Vehicle	-	-	150,000	-
30 Tulloch Shoreline Erosion Project- Site #3	Tulloch	500,000	-	800,000	-
31 Tulloch Spillway	Tulloch	362,165	93,673	350,000	-
32 Tulloch Barge Removal	Tulloch	100,000	-	20,000	-
33 Electric Operators for shop doors	Strawberry	10,000	-	15,000	-
34 EGEN Replacement	Donnells	45,000	29,387	3,000	-
35 Beardsley Meters Upgrade	Beardsley PH	40,000	9,568	40,000	-
36 Tulloch Meters Upgrade	Tulloch PH	40,000	9,568	40,000	-
37 EGEN Replacement	Division Point	30,000	-	30,000	-
38 High Bay LED Lighting	Various	-	-	48,000	-
39 New Headquarters	Sonora	125,000	1,330,309	2,000,000	-
40 SF-6 Breaker Replacement Program	Various	-	-	-	500,000
41 Renovate BPH Kitchen	Beardsley	-	-	6,000	-
42 Replace 12-1 4x4 Pickup 142,000	Vehicle	-	-	55,000	-
43 Replace 13-2 4x4 Tahoe 160,000	Vehicle	-	-	55,000	-
44 Tulloch/Donnells Cottages	Tulloch, Donnells	-	-	-	100,000
45 Tulloch 1 and 2 Gateshaft Gov retrofit	Tulloch	-	-	300,000	-
46 Path Boxes to align microwave dishes	Equipment	-	-	25,000	-
47 Beardsley Lathe Refurbishment	Beardsley	-	-	10,000	-
48 Exciter/Bridge Replacement	Donnells/ Beardsley	-	-	400,000	-
49 Halatron Fire extinguishes for control/MCC all locations	Various	-	-	10,000	-
50 Fire supression trailer (Water Buffalo)	Equipment	-	-	14,000	-
51 Tulloch PLC Screens, Processor, and I/O Module	Tulloch	-	-	40,000	-
52 Radio and dish replacement DDM to SPK Link	Strawberry Peak	-	-	60,000	-
53 Radio and dish replacement Mt Liz to Division Link	Mt Elizabeth	-	-	60,000	-
54 Radio and dish replacement Tulloch to Goodwin	Goodwin	-	-	60,000	-

55	Convault Fuel Containment	Tulloch	-	-	10,000	-
56	Quincy Rotary Screw Air Compressor (2 units)	Beardsley	-	-	30,000	-
57	Tulloch GSU work, Drain Filter repair	Tulloch	-	-	200,000	-
58	GraphEX-OI interface TPH 1 &2	Tulloch	-	-	40,000	-
59	Carbon Dust Collection System, Brush Holder, Brushes	Donnells	-	-	55,000	-
TOTAL CAPITAL			3,433,656	2,767,053	5,912,000	600,000

Tri-Dam Project

2024 Budget

Goodwin Dam

Acct No.	Category			Amended	2023	2024	
		2021 Actual	2022 Actual	2023 Budget	Projection	Proposed Budget	
OPERATIONS							
1	53940	Dam Supplies	-	300	400	-	400
2	53970	Utilities	3,852	4,851	5,100	5,000	5,500
3	59610	Dam Safety Fees	17,139	10,618	12,000	10,618	12,000
4	59640	Streamgaging	44,055	44,595	48,000	45,000	48,000
5	59645	Streamgaging Certification - USGS	15,139	13,533	17,000	10,000	15,000
6		GOODWIN OPERATIONS EXPENSE	80,185	73,896	82,500	70,618	80,900
MAINTENANCE							
7	54330	Maintenance & Repairs to Facilities	6,892	625	5,000	-	5,000
8	54560	Microwave / Computer Repair & Replacement	-	-	2,000	-	2,000
9	54730	Communications & Security System	-	26	220	-	500
10	59755	Equipment Rental from Tri-Dam Project	2,400	2,400	3,500	3,500	3,500
11		GOODWIN MAINTENANCE EXPENSE	9,292	3,051	10,720	3,500	11,000
ADMINISTRATION							
12	59310	Legal Fees	-	-	5,000	-	5,000
13	59331	Auditing Services	3,165	-	3,900	3,900	3,405
14	59410	Insurance Premiums	12,063	6,806	8,000	8,000	8,000
15	59200	Professional Services Consulting	-	2,410	-	-	-
16		GOODWIN ADMINISTRATIVE EXPENSE	15,228	9,216	16,900	11,900	16,405
17		TOTAL OPERATIONS, MAINTENANCE & ADMIN	104,705	86,163	110,120	86,018	108,305
LABOR & OVERHEAD							
18	53510	Payroll Labor - Operations	74,516	82,073	81,900	75,000	80,000
19		Payroll Labor - Administration	19,398	15,889	18,200	14,500	18,000
20		Payroll Labor - Maintenance	21,742	25,066	40,700	16,000	40,000
21	53520	Payroll Overhead - Operations	48,221	30,116	29,900	24,000	30,000
22		Payroll Overhead - Administration	11,127	5,121	6,500	6,000	7,000
23		Payroll Overhead - Maintenance	15,041	10,642	11,200	7,000	12,000
24	59200	Profession Contract Services - Finance Manager	-	-	3,400	3,400	1,000
25		TOTAL LABOR & OVERHEAD	190,045	168,906	191,800	145,900	188,000
26							
27		TOTAL GOODWIN OPERATING EXPENSES	294,750	255,070	301,920	231,918	296,305
CAPITAL EXPENDITURES							
28	1-8-06-35	Radio and Dish Replacement	-	-	-	-	60,000
29	1-8-06-77	Microwave link upgrade	1,715	-	30,000	-	30,000
30		TOTAL CAPITAL EXPENDITURES	1,715	-	30,000	-	90,000

BOARD AGENDA REPORT

Date: December 21, 2023

Staff: Summer Nicotero

SUBJECT: Tulloch Shoreline Erosion & Day Use Remediation

RECOMMENDED ACTION: Review and authorize the General Manager to approve funding and award contract to perform Tulloch Shoreline Erosion and Day Use Remediation work.

BACKGROUND AND/OR HISTORY:

On February 16, 2006, the Tri-Dam Project was issued a new license by the Federal Energy Regulatory Commission (FERC) for Tulloch Project 2067. Article 403 of this license details the requirements of a Shoreline Erosion Monitoring Plan and its 5-year reporting requirement. In 2013 a Professional Services Agreement was signed with Jacobs Associates to perform an audit of the entire shoreline at Tulloch Reservoir. In 2017 McMillen Jacobs Associates reported their findings. An updated version was completed again in 2018. 15 sites were identified, and recommended corrective actions were given for repairs. Each site was prioritized based on topics including potential for damage to personal property and severity of erosion. A proposed 5-year maintenance schedule was created to address the erosion, with work slated to begin in 2017 and complete in 2021. Copies of these reports and maintenance schedule were submitted and filed with FERC.

In 2020 Tri-Dam put out to bid an RFP to address corrective measures for the three highest priority sites; #3,10, and 11. The project was never awarded. This September Tri-Dam hired Provost & Pritchard to assist with facilitating an RFP through a Public Purchasing website for the needed Tulloch Shoreline Erosion repairs to Sites #3, 10, 11, as well as the completion of the originally designed mortaring of the shoreline rock retaining wall at the new Day Use Area. Construction at these sites would occur between January and March, 2024.

Based off the stated requirements in the RFP, three proposals received were deemed eligible. The received bid totals are as follows:

a.	Ford Construction Company, Inc.	\$864,111
b.	Syblon Reid	\$2,198,00
c.	Sierra Mountain Construction Inc.	\$4,554,650

All three firms provided proposals, both responsive to bidding specifications and possessing the required technical abilities and experience to perform the needed work. Staff recommends that Ford Construction Company be selected to perform the Shoreline Erosion & Day Use Remediation project, with the proposed site breakdown as noted:

Site 3	\$346,951
Site 10	\$210,860
Site 11	\$198,800
Day Use	\$107,500
Construction Total	\$864,111

Required permits for this project include both Tuolumne and Calaveras County Engineered Grading Permits, California Department of Fish & Wildlife - Lake & Streambed Alteration (LSA) Standard Agreement, United States Army Corps of Engineers -Clean Water Act 404 permit, and the California State Water Boards - Central Valley Regional Water Quality Control Board - Clean Water Act 401 Certification. The total amount for all required permitting is noted:

<u>Permitting Total</u>	<u>\$28,752</u>
<u>Project Grand Total</u>	<u>\$900,000</u>

The 2024 budget reflects these amounts.

ATTACHMENTS: Contract for shoreline erosion work, Ford Construction Company proposal, Syblon Reid proposal, Sierra Mountain Construction Inc. proposal, copy of the 2018 McMillen Jacobs Associates report, map of the 15 shoreline erosion sites at Tulloch Reservoir, recent photos of the Sites #3, 10, 11 and Day Use, cost breakdown of required permits.

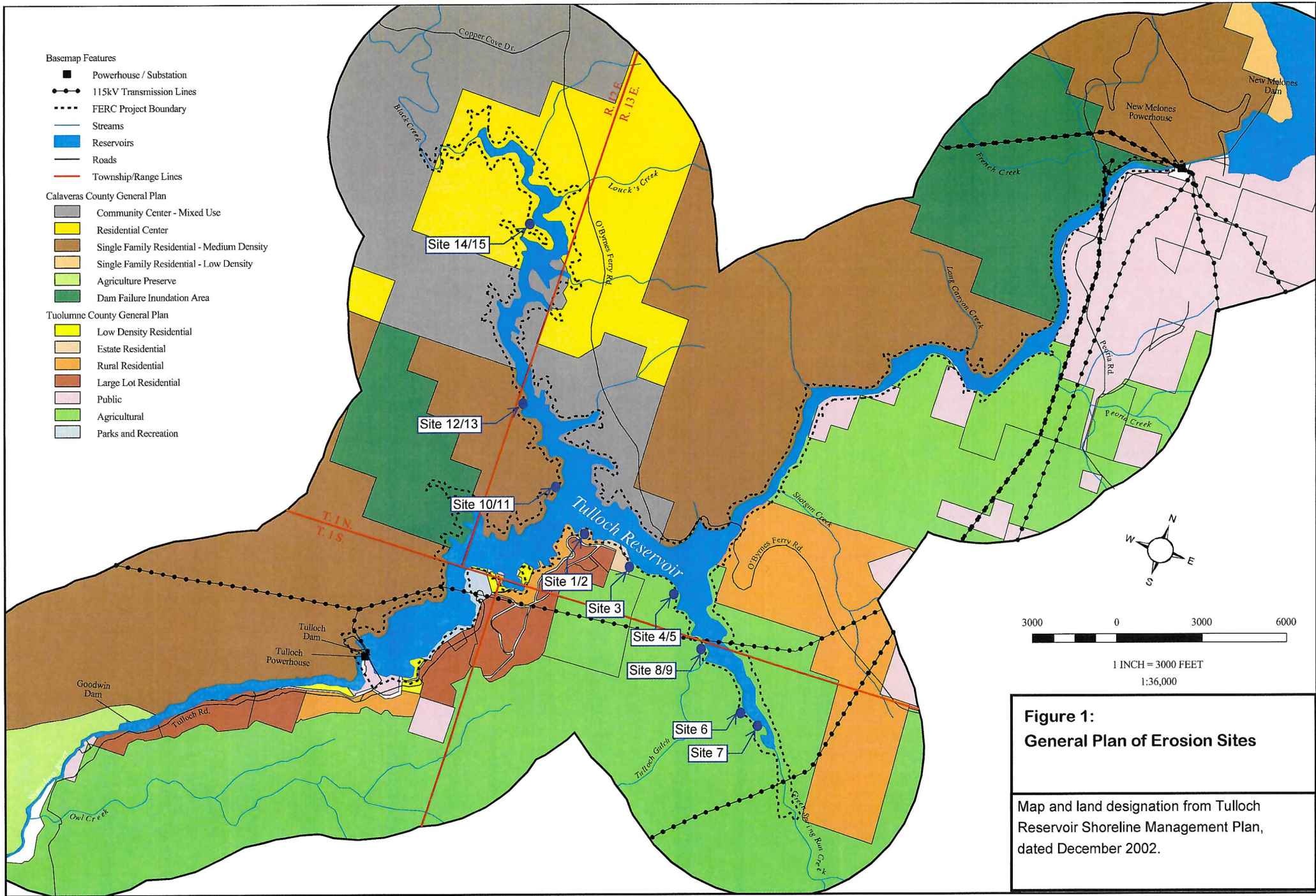
Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)



Tulloch Site Visit – October 18, 2023

Site 3 - Max Height Approximately 25 feet – Approximate Length 125 feet.



Tulloch Site Visit – October 18, 2023

Site 10 - Max Height Approximately 12 feet – Approximate Length 200 feet.



Tulloch Site Visit – October 18, 2023

Site 11 - Max Height Approximately 10 feet – Approximate Length 200 feet.



Tulloch Site Visit – October 18, 2023

Day Use - Max Height Approximately 12 feet – Approximate Length 350 feet.



Requirement	Syblon	SMCI	Ford
General Info	Yes	Yes	Yes
Relevant Experience			
5 years	Yes	Yes	Yes
similar scope	Yes	Yes	Yes
Identify Key Staff	Yes	Yes	Yes
Identify Consultants/Subcontractors	Yes (NV5)	Yes (Delve)	Yes (KSN)
Approach			
Work Plan	Yes	Yes	Yes
Timeline	Yes	Yes	Yes
Identify TDP Resources needed	No	None	Yes
Fee Schedule			
Road	\$ 2,198,000.00	\$ 4,754,650.00	\$ 864,111.25
Barge	\$ 2,193,000.00	\$ 4,554,650.00	\$ 1,865,000.00
Selection Criteria			
Timeliness and Completeness (15%)			
Technical Quals/Exper (15%)			
Approach (20%)			
Price (NTE) & Control Measures (50%)			

Task	Syblon	SMCI	Ford
Mob	\$ 540,000.00	\$ 1,200,000.00	incl in each site
SWPPP	\$ 150,000.00	\$ 130,000.00	excluded
Site 3	\$ 396,000.00	\$ 871,400.00	\$ 346,951.25
Site 10	\$ 56,000.00	\$ 465,750.00	\$ 210,860.00
Site 11	\$ 234,000.00	\$ 531,500.00	\$ 198,800.00
Day Use	\$ 147,000.00	\$ 68,000.00	\$ 107,500.00
Barge	\$ 465,000.00	inc in mob	\$ 1,000,888.75
Roads	\$ 395,000.00	\$ 200,000.00	incl in site 10 & 11
Other		\$ 1,288,000.00	
Total Proposal Price	\$ 2,198,000.00	\$ 4,554,650.00	\$ 864,111.25



PROPOSAL

Proposal Date: November 6, 2023
(Via: Public Purchase Website)

Ford Estimate No.: 23E037

Submitted To: Tri-Dam Project
P.O. Box 1158
Pinecrest, CA 95364

Attention: Kim Tarantino, Senior Project Administrator
209-965-3996 Phone

Project Name: RFP #4081-23-002 TS - Tulloch Shoreline and Day Use

Total Bid \$ See Attached.

(See Scope, Exclusion, Conditions & Bid Total sheet)

Contract documents to include:

Specifications: 20230929 RFP Tulloch Reservoir Shoreline Erosion and Day Use Remediation

Drawings: n/a

Geotechnical Reports: n/a

Addenda: Addendum No. 1, October 5, 2023 and Addendum No. 2, October 26, 2023

After a thorough review of the contract documents listed above, the following is our proposal for the above referenced project. This proposal will become part of any contract awarded to Ford Construction Company, Inc. (Ford). This proposal will hold precedence over any other conditions of a contract. Anything not specifically included is hereby excluded.

Scope:

After the contract is fully executed, we will survey the site to verify the quantities of the contract. Project material submittals will be submitted at this time. Final Design drawings will be issued and submitted after the verification survey is complete. At this point mobilization will begin to Site 3, 10, and 11. If we are granted access prior to the date of January 4, 2024, we will develop access to the repair locations and stage as much of the project required materials as possible. We would like to get all the material to the sites and staged so weather will not be a factor for project completion. When the drawdown of the lake reaches the point where we can have access to the construction sites, we will begin the erosion repair as determined in our final designs. If wet weather is forecasted, we will use multiple crews to complete the project.

300 W. Pine Street • Lodi, California 95240 • p 209.333.1116 • f 209.333.8597

CSLB 391570

www.ford-construction.com

Exclusions:

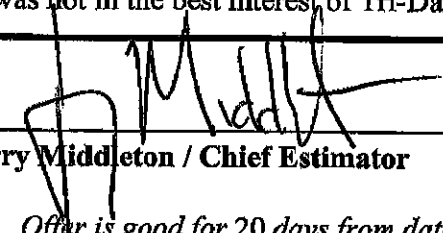
1. Survey Control.
2. Soils testing.
3. Grading work for concrete work.
4. SWPPP, NOI, NOT, storm water monitoring, storm water sampling, storm water reporting.
5. Professional Liability Insurance.
6. Fees or permits.
7. Bonds.
8. Handling and/or disposal of hazardous, toxic or restricted material.
9. PLA or any cost associated with PLA's.
10. Added cost for the new California Law AB5.
11. Waterside barge work.

Conditions:

1. All items must be awarded as a complete package with a mutually agreeable construction schedule.
2. This Proposal will be made part of any contract. A contract acceptable to Ford Construction Company, Inc. will be executed before work is started. If any provisions contained in a contract conflict with, or are inconsistent with any provisions in this proposal, the provision contained in this proposal shall govern and control.
3. Project funding will be in place before construction is started. Owner shall be responsible for providing Ford and its surety with satisfactory evidence that adequate funding is available for the work contemplated herein.
4. Ford will not enter into any contract whereby payment from the Owner to the Construction Manager / General Contractor / Constructor is a condition precedent for payment to Ford/ Subcontractor.
5. Payment terms are net 30 days from date of invoice. No retention will be held.
6. Final contract value will be calculated by multiplying unit price by actual quantities installed.
7. Offer and pricing are based on work being completed by March 01, 2024.
8. California Contract Code will be the governing law for this contract.
9. Owner shall not hire away Contractor's employees.
10. Price is based on all excavation being diggable with a CAT 325 Excavator @ a minimum of 30 CY per hours. Price includes excavation of all materials except rock. Rock is hereby defined as materials that cannot be dug at a minimum of 30 CY per hour with a CAT 325 excavator.
11. Includes dust control during the actual performance of the work. Any "off-hours and weekend" dust control measures shall be the responsibility of the Owner. Dust Control measures for "off-hours and/or weekends" requested by Owner shall be performed on a Time and Material basis.
12. Price is based on grading tolerances of 0.25ft.
13. Ford Construction's portable 10,000 gallon – 12,000-gallon fuel tank with secondary containment will be used onsite for fuel storage.
14. Bond rate is 1%, if required.

15. We currently have red diesel fuel at \$4.50/gallon and on highway diesel at \$5.50/gallon in this proposal. If fuel cost decreases by \$0.25/gallon or increases by \$0.25/gallon from \$4.50/gallon for red fuel & \$5.50/gallon for on highway fuel, then a deductive or additive contract change order will be required.
16. Waterside Barge work for the smaller quantities on these items of work have not proven to be cost effective. The assembly of the barges at current high water, completing the site repairs at low water, then waiting for high water again to remove the barges adds a lot of cost that make this option uneconomical. We were at \$1,865,000 for the water side work and realized it was not in the best interest of Tri-Dam Project.

Submitted by:


Jerry Middleton / Chief Estimator

Offer is good for 20 days from date of this proposal



Work Plan

Site 3

Ford Construction Company, Inc. has estimated the cost for waterside access to be excessive. Ford Construction will utilize landside access to complete the repair to site 3. Ford will potentially remove a tree to the south of the existing building and trees between the building and Lake Tulloch. Ford will excavate and build access around the South side of the existing building. The excavated material will be hauled and placed at Tri-Dam's staging area near the dam. The excavated slope will be a 1:1 ratio. The tree to the south of the building can potentially be saved if we install a vertical retaining wall instead of laying back the slope (1,300sf wall for \$65,000). The access will be graded to drain stormwater into a metal flume down the slope and into Lake Tulloch. The access around the South side on the building will be surfaced with CL II AB. The newly established access will be left in place at project completion. Seed and straw will be hand-broadcasted to ensure no erosion and vegetation re-establishment. The new access will be sloped so storm water will be collected and carried over the slope in a 12" cnp flume into Lake Tulloch. Below the toe of the slope failure, a keyway will be established to hold the RSP in place. The keyway will be 18" deep or at excavation refusal (rocked out). 18" Minus RSP will be stockpiled at the toe of the repair on a 1.5:1 slope. Rock fill will then be placed to make up a 2:1 slope for the remaining portion of the slope to tie into the top of the repair area. The rock fill material will be capped with 18" minus Rip Rap. The Rock fill material will be the 3" minus from Hogan Quarry with the keyway excavation material blended in. The 18" Minus material will be Facing Class RSP from Hogan Quarry.

Bid Item Description Site 3

- 3-1 Final Design - Project design team to complete drawings for construction
- 3-2 Mobilization - Costs to move equipment and personnel to the project site, costs for bonds, costs for partnering and pre-planning, costs for employee drug testing, site safety costs, sanitary costs, costs for GPS equipment and mobile phone costs.
- 3-3 Survey - Establish site survey control, Site pre-construction survey
- 3-4 QC/QA and inspection - Project construction management to verify the project has been constructed to the quality as detailed in the project plans and specifications.
- 3-5 Clear grub and pioneer access to site – develop site access for equipment personnel, and permanent materials to the project site.
- 3-6 Clear grub and pioneer site - remove vegetation and all organics that cannot be incorporated into the work. Prep site for grading, develop access on the site.
- 3-7 Site Grading - Prep site to subgrade template contours. Slope to drain area above site to 12" cmp flume for storm water delivery to lake Tulloch.
- 3-8 Rock Fill – Rocky Fill material to be used to replace the material loss to erosion
- 3-9 RSP - Purchase haul and place RSP on the slope to prevent any future erosion
- 3-10 RSP Fabric - install an 8oz non-woven fabric on sub-grade below the RSP
- 3-11 BMP's and erosion control - complete erosion protection of site. Hand Broadcast seed and straw on all unprotected bare soil.
- 3-12 As-built information and engineer sign off - Final project survey, As-built drawings and project sign off of the design engineer and the construction manager.

Jerry Middleton

From: Jeff Mueller <jmueller@ksninc.com>
Sent: Wednesday, November 4, 2020 3:40 PM
To: Jerry Middleton
Cc: Jersyn Sharp
Subject: RE: Work Plan
Attachments: Tulloch Erosion Remediation Exhibits_Rev1.pdf

Jerry,

Attached are revised drawings and our rock calcs are as follows:

SITE 3

Material	Repair Height (ft)	Repair Length (ft)	XS Area from Dwg (sf)	Final Material Volume (cy)
18" Minus	25	150	69	390
6" Minus	25	150	61	340

SITE 10

Material	Repair Height (ft)	Repair Length (ft)	XS Area from Dwg (sf)	Final Material Volume (cy)
18" Minus	12	200	27	200

SITE 11

Material	Repair Height (ft)	Repair Length (ft)	XS Area from Dwg (sf)	Final Material Volume (cy)
18" Minus	10	200	23	170

Please let me know if you have questions or need anything else.

Thanks,
Jeff



Jeff Mueller, P.E.
Civil Engineer

711 N. Pershing Ave. Stockton CA 95203
209 946-0268 | fax: 209 946-0296 |
jmueller@ksninc.com | <https://www.ksninc.com>

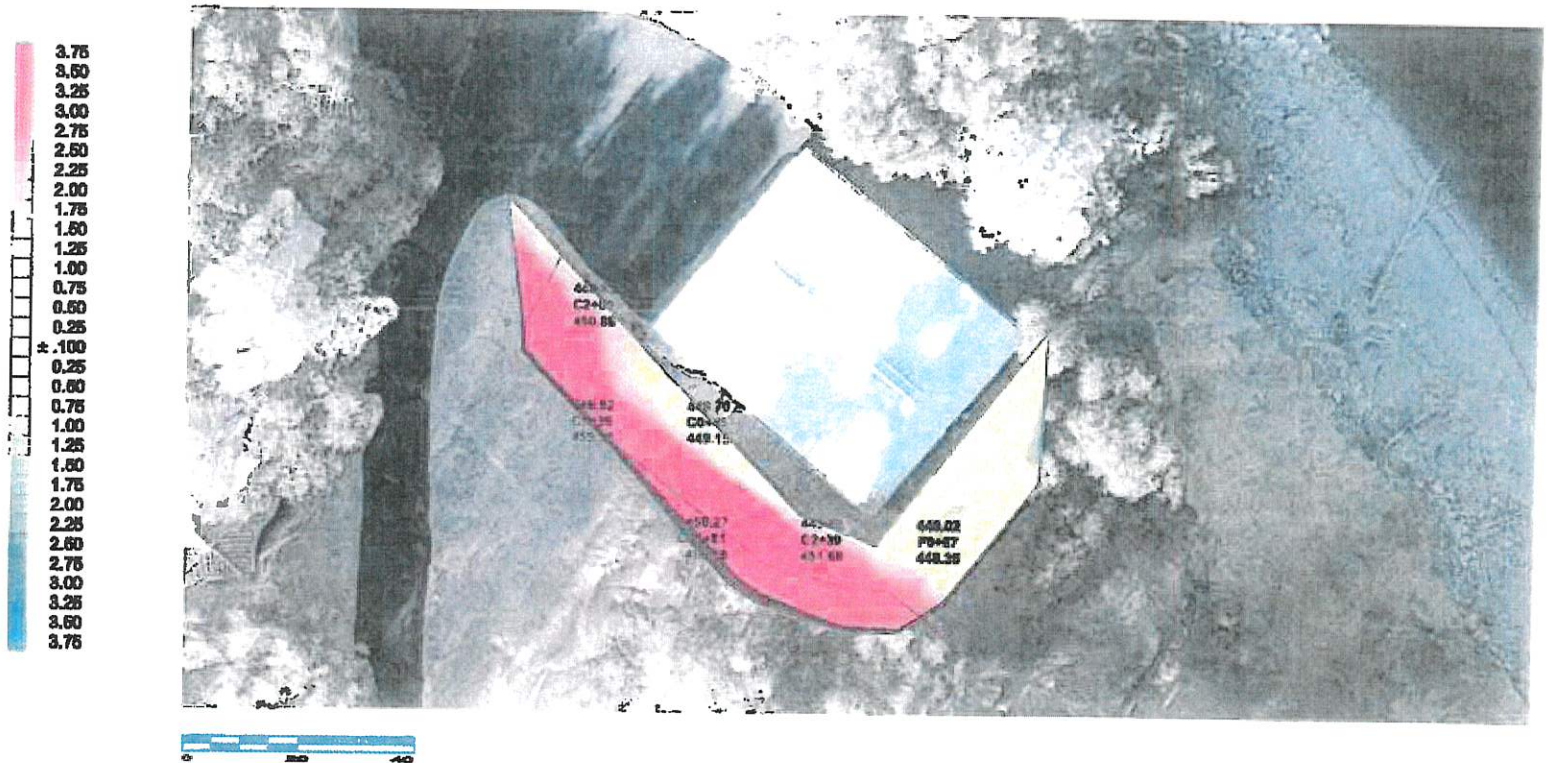
Warning:
Information provided via electronic media is not guaranteed against defects including translation and transmission errors.

Job: Tulloch Site 3
 Units: Ft-CY
 Mon Nov 2, 2020 10:52:44 Page 1

Volume Report
New Surface vs. Existing

Job Site	Area		Volume		Comp/Ratio		Compact		Export Change			
	Total	Cut	Fill	OnGrade	Cut	Fill	Cut	Fill	Import	Per .1 Ft		
Job Site	2,039	1,524	198	317	310	6	1.00	1.00	310	5	305	8

Site 3 Access with
 Retaining wall option
 Grading option II





Work Plan

Site 10

Ford Construction Company, Inc. has estimated the cost for waterside access to be excessive. Ford Construction will utilize landside access to complete the repair to site 10. Approximately 700ft of access roadway needs to be built from an existing dirt road to the top of Site 10. The existing dirt road connects to the end of Little John Road in Copperopolis. At project completion, the new access road will be seeded and strawed to ensure no erosion and vegetation re-establishment. Ford Construction has accessed Lake Tulloch on two occasions from the end of Little John Road in Copperopolis. Initially, when we built CCWD a pump station with a submerged intake structure in Lake Tulloch, and a second time when we extended the intake lines of the existing intake structure and relocated it to deeper water.

Ford Construction will use a 325 excavator to grade the site 10 repair location to in preparation to receive 18" minus RSP. An 8oz geotextile fabric will then be placed on the slope and approximately a 2.0ft thick layer of 18" minus RSP will be placed on the geotextile fabric. The keyway will be 18" deep or at excavation refusal (rocked out). 18" Minus RSP will be stockpiled at the toe of the repair on a 1.5:1 slope and transition to match the existing slope toward the top of the repair. The 18" Minus material will be Facing Class RSP from Hogan Quarry.

Site 11

Ford Construction Company, Inc. has estimated the cost for waterside access to be excessive. Ford Construction will utilize landside access to complete the repair to site 11. Approximately 450ft of access roadway needs to be built from an existing dirt road to the top of Site 11. The existing dirt road connects to the end of Little John Road in Copperopolis. At project completion, the new access road will be seeded and strawed to ensure no erosion and vegetation re-establishment. Ford Construction has accessed Lake Tulloch on two occasions from the end of Little John Road in Copperopolis. Initially, when we built CCWD a pump station with a submerged intake structure in Lake Tulloch and a second time when we extended the intake lines of the existing intake structure and relocated it to deeper water.

Ford Construction will use a 325 excavator to grade the site 11 repair location to in preparation to receive 18" minus RSP. An 8oz geotextile fabric will then be placed on the slope and approximately a 2.0ft thick layer of 18" minus RSP will be placed on the geotextile fabric. The keyway will be 18" deep or at excavation refusal (rocked out). 18" Minus RSP will be stockpiled at the toe of the repair on a 1.5:1 slope and transition to match the existing slope towards the top of the repair. The 18" Minus material will be Facing Class RSP from Hogan Quarry.

Bid Item Description Site 10

- 10-1 Final Design - Project design team to complete drawings for construction
- 10-2 Mobilization - Costs to move equipment and personnel to the project site, costs for bonds, costs for partnering and pre-planning, costs for employee drug testing, site safety costs, sanitary costs, costs for GPS equipment, and mobile phone costs.
- 10-3 Survey - Establish site survey control, Site pre-construction survey
- 10-4 QC/QA and inspection - Project construction management to verify the project has been constructed to the quality as detailed in the project plans and specifications.
- 10-5 Clear grub and pioneer access to site – develop site access for equipment personnel, and permanent materials to the project site.
- 10-6 Clear grub and pioneer site - remove vegetation and all organics that cannot be incorporated into the work. Prep site for grading, develop access on the site.
- 10-7 Site Grading - Prep site to subgrade template contours
- 10-8 RSP - Purchase haul and place RSP on the slope to prevent any future erosion
- 10-9 RSP Fabric - install an 8oz non-woven fabric on sub-grade below the RSP
- 10-10 BMP's and erosion control - complete erosion protection of site. Hand Broadcast seed and straw on all unprotected bare soil.
- 10-11 As-built information and engineer sign off - Final project survey, As-built drawings and project sign off of the design engineer and the construction manager.

Bid Item Description Site 11

- 11-1 Final Design - Project design team to complete drawings for construction
- 11-2 Mobilization - Costs to move equipment and personnel to the project site, costs for bonds, costs for partnering and pre-planning, costs for employee drug testing, site safety costs, sanitary costs, costs for GPS equipment, and mobile phone costs.
- 11-3 Survey - Establish site survey control, Site pre-construction survey
- 11-4 QC/QA and inspection - Project construction management to verify the project has been constructed to the quality as detailed in the project plans and specifications.
- 11-5 Clear grub and pioneer access to site – develop site access for equipment personnel, and permanent materials to the project site.
- 11-6 Clear grub and pioneer site - remove vegetation and all organics that cannot be incorporated into the work. Prep site for grading, develop access on the site.

11-7 Site Grading - Prep site to subgrade template contours

11-8 RSP - Purchase haul and place RSP on the slope to prevent any future erosion

11-9 RSP Fabric - install an 8oz non-woven fabric on sub-grade below the RSP

11-10 BMP's and erosion control - complete erosion protection of site. Hand Broadcast seed and straw on all unprotected bare soil.

11-11 As-built information and engineer sign off - Final project survey, As-built drawings and project sign off of the design engineer and the construction manager.

Jerry Middleton

From: Jeff Mueller <jmueller@ksninc.com>
Sent: Wednesday, November 4, 2020 3:40 PM
To: Jerry Middleton
Cc: Jersyn Sharp
Subject: RE: Work Plan
Attachments: Tulloch Erosion Remediation Exhibits Rev1.pdf

Jerry,

Attached are revised drawings and our rock calcs are as follows:

SITE 3

Material	Repair Height (ft)	Repair Length (ft)	XS Area from Dwg (sf)	Final Material Volume (cy)
18" Minus	25	150	69	390
6" Minus	25	150	61	340

SITE 10

Material	Repair Height (ft)	Repair Length (ft)	XS Area from Dwg (sf)	Final Material Volume (cy)
18" Minus	12	200	27	200

SITE 11

Material	Repair Height (ft)	Repair Length (ft)	XS Area from Dwg (sf)	Final Material Volume (cy)
18" Minus	10	200	23	170

Please let me know if you have questions or need anything else.

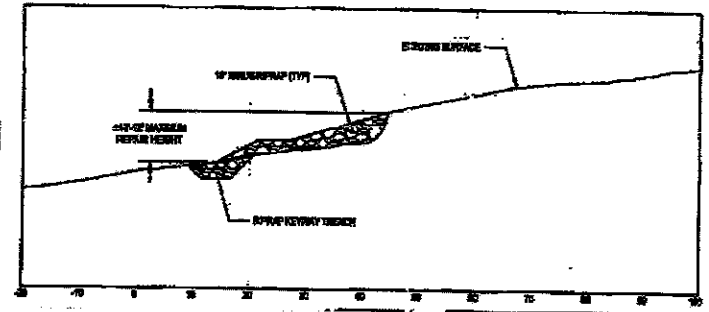
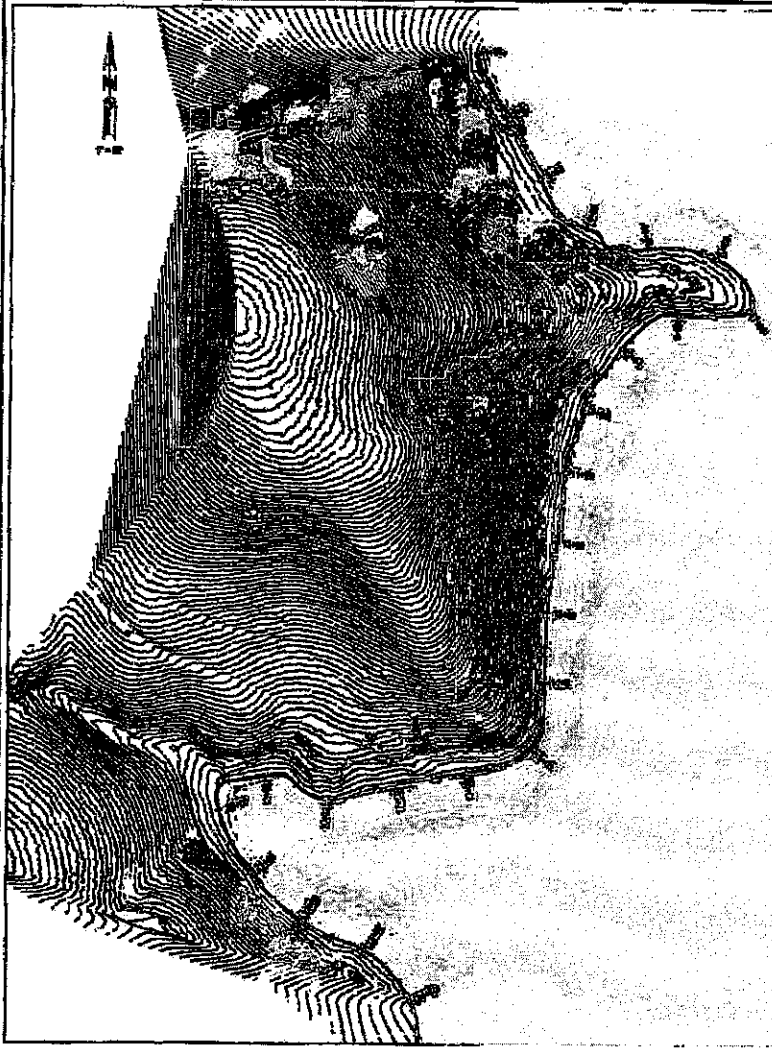
Thanks,
Jeff



Jeff Mueller, P.E.
Civil Engineer

711 N. Pershing Ave. Stockton CA 95203
209 946-0268 | fax: 209 946-0296 |
jmueller@ksninc.com | <https://www.ksninc.com>

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TULLOCH
RESERVOIR

FILE: \\P:\2002\2002\Projects\2002_02_08_Tulloch_Reservoir_Dam\1002_02_08_Tulloch_Reservoir_Dam\1002_02_08_Tulloch_Reservoir_Dam.dwg (Sheet) 10/28/02 10:41:00 AM



NO.	DATE

**NO
FIELD
CONSTRUCTION**

NO.	DESCRIPTION	DATE	APPV

DESIGNED BY: KIM
 DRAWN BY: JPS
 CHECKED BY: JMS
 APPROVED BY: [Signature]
 VERTICAL DATUM: MDSM

SCALE: 1" = 100'
 GRAPHIC SCALE: 0 10 20
 [Scale bar]



711 N. Partridge Avenue
 San Jose, CA 95128
 408-938-4333
 1380 Market Street, Suite 212
 San Francisco, CA 94102
 415-435-1010

**TRD-DAM PROJECT - TULLOCH RESERVOIR
 BULKHEAD EROSION REMEDIATION PROJECT**
 SITE 10 & 11
 SITE PLAN AND REPAIR DETAIL

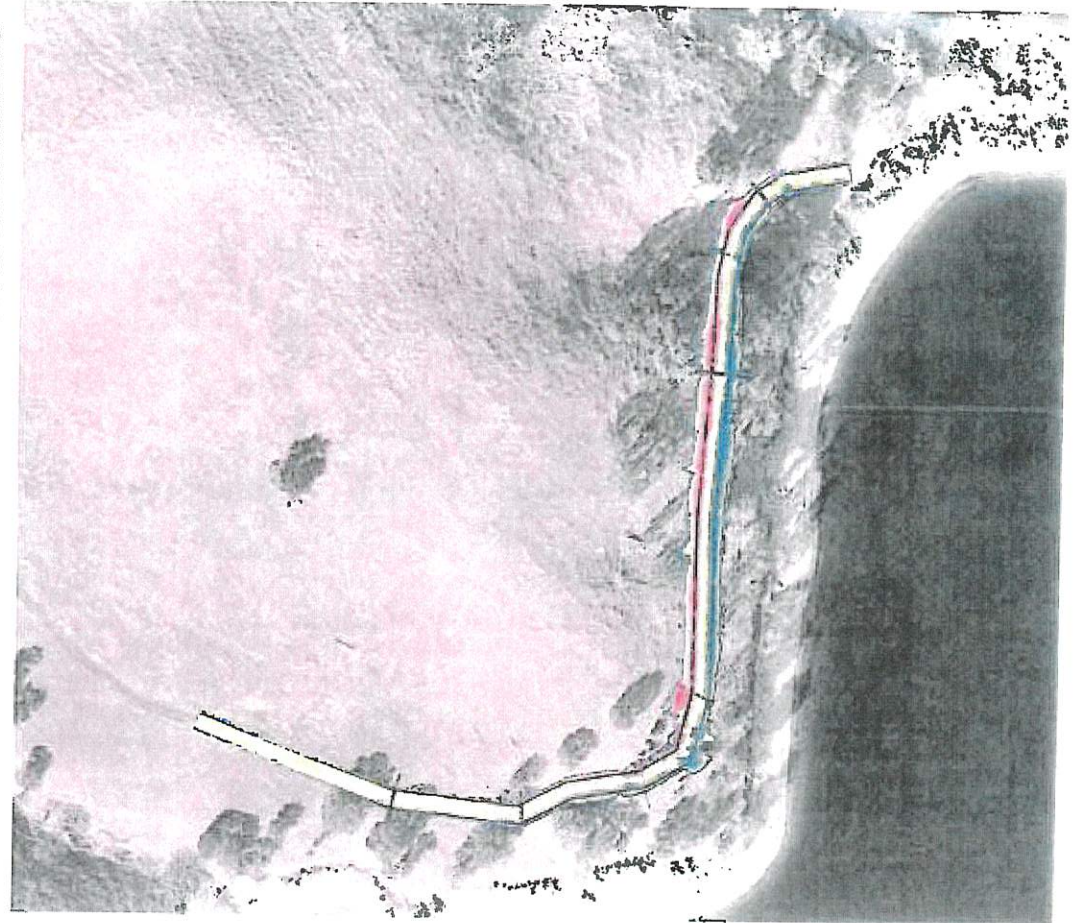
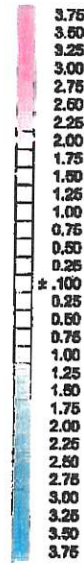
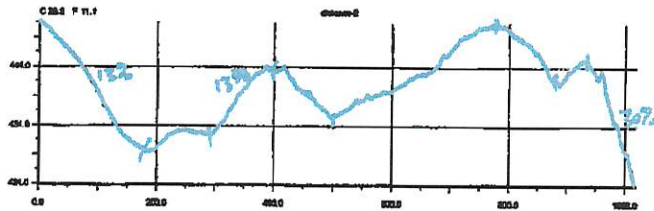
DATE: NOVEMBER 2002
 PROJECT IDENTIFICATION:
CS102
 SHEET # 10 OF 1
 FOR PROJECT FILE NO. 0202-0202

Job: Tulloch Site 10-11
 Units: Ft-CY
 Mon Nov 2, 2020 11:06:11 Page 1

Volume Report
Design vs. Existing

Job Site	Total		Area		Volume		Comp./Ratio		Compact		Export Change	
	Cut	Fill	OnGrade	OnGrade	Cut	Fill	Cut	Fill	Cut	Fill	-Import	Per 1 Ft
	25,435	11,107	10,395	3,833	749	661	1.00	1.00	749	661	00	34

Access Road Development





Work Plan

Lake Tulloch Day Use Area

Ford Construction Company, Inc. will mobilize a crew and set up a staging area and yard in the Day Use Parking Lot. The locations on the face of the wall to receive dry packed grout will be pressure washed. If pressure washing is not required, \$15,000 may be deducted from this portion of the proposal. The sack grout will then be moisture-conditioned and forced into the rock joints by hand.

11/06/2023
 23E036
 *** Middleton

13:11
 TRI-DAM LAKE TULLOCH SHORLINE & DAY USE

BID TOTALS

<u>Biditem</u>	<u>Description</u>	<u>Status - Rnd</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Bid Total</u>
Site 3						
3-1	FINAL DESIGN	F - New	1.000	LS	12,000.00	12,000.00
3-2	MOBILIZATION	F - New	1.000	LS	47,500.00	47,500.00
3-3	SURVEY	F - New	1.000	LS	10,120.00	10,120.00
3-4	QC/QA AND INSPECTION	F - New	1.000	LS	4,600.00	4,600.00
3-5	CLEAR GRUB AND PIONEER ACCESS TO SITE	F - New	1.000	LS	30,000.00	30,000.00
3-6	CLEAR GRUB AND PIONEER SITE	F - New	3,125.000	SF	5.00	15,625.00
3-7	SITE GRADING	F - New	3,125.000	SF	5.50	17,187.50
3-8	ROCKFILL	F - New	340.000	CY	195.00	66,300.00
3-9	RSP	F - New	390.000	CY	325.00	126,750.00
3-10	RSP FABRIC	F - New	3,125.000	SF	0.15	468.75
3-11	BMP'S AND EROSION CONTROL	F - New	1.000	LS	12,400.00	12,400.00
3.12	ASBUILT INFORMATION AND ENGINEER SIGN OFF	F - New	1.000	LS	4,000.00	4,000.00

Site 3 TOTAL = \$346,951.25

Site 10						
10-1	FINAL DESIGN	F - New	1.000	LS	15,000.00	15,000.00
10-2	MOBILIZATION	F - New	1.000	LS	30,000.00	30,000.00
10-3	SURVEY	F - New	1.000	LS	11,000.00	11,000.00
10-4	QC/QA AND INSPECTION	F - New	1.000	LS	4,600.00	4,600.00
10-5	CLEAR GRUB AND PIONEER ACCESS TO SITE	F - New	1.000	LS	38,000.00	38,000.00
10-6	CLEAR GRUB AND PIONEER SITE	F - New	1.000	LS	9,500.00	9,500.00
10-7	SITE GRADING	F - New	2,400.000	SF	7.50	18,000.00
10-8	RSP	F - New	200.000	CY	300.00	60,000.00
10-9	RSP FABRIC	F - New	2,400.000	SF	0.15	360.00
10-10	BMP'S AND EROSION CONTROL	F - New	12,000.000	SF	1.70	20,400.00
10-11	ASBUILT INFORMATION AND ENGINEER SIGN OFF	F - New	1.000	LS	4,000.00	4,000.00

Site 10 TOTAL = \$210,860.00

11/06/2023
 23E036
 *** Middleton

13:11
 TRI-DAM LAKE TULLOCH SHORLINE & DAY USE

BID TOTALS

<u>Biditem</u>	<u>Description</u>	<u>Status - Rad</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Bid Total</u>
Site 11						
11-1	FINAL DESIGN	F - New	1.000	LS	15,000.00	15,000.00
11-2	MOBILIZATION	F - New	1.000	LS	30,000.00	30,000.00
11-3	SURVEY	F - New	1.000	LS	11,000.00	11,000.00
11-4	QC/QA AND INSPECTION	F - New	1.000	LS	4,600.00	4,600.00
11-5	CLEAR GRUB AND PIONEER ACCESS TO SITE	F - New	1.000	LS	38,000.00	38,000.00
11-6	CLEAR GRUB AND PIONEER SITE	F - New	1.000	LS	9,500.00	9,500.00
11-7	SITE GRADING	F - New	2,000.000	SF	7.50	15,000.00
11-8	RSP	F - New	170.000	CY	300.00	51,000.00
11-9	RSP FABRIC	F - New	2,000.000	SF	0.15	300.00
11-10	BMP'S AND EROSION CONTROL	F - New	12,000.000	SF	1.70	20,400.00
11-11	ASBUILT INFORMATION AND ENGINEER SIGN OFF	F - New	1.000	LS	4,000.00	4,000.00
Site 11 TOTAL =						\$198,800.00
Day Use Area Wall Dry Pack Joints						
Day Use - 1	Mobilize to Day Use Area	U	1.000	LS	29,100.00	29,100.00
Day Use - 2	PRESURE WASH EXISTING ROCK WALL FACE	U	4,200.000	SF	4.00	16,800.00
Day Use - 3	DRY PAC JOINTS WITH GROUT	U	2,800.000	LF	22.00	61,600.00
Day Use Area Wall Dry Pack Joints TOTAL =						\$107,500.00
Bid Total						\$864,111.25

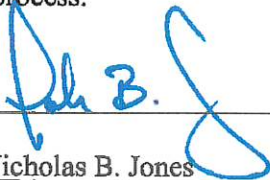
EXHIBIT A
STATEMENT OF NO CONFLICT OF INTEREST

The Undersigned, on behalf of the contractor/contracting firm set forth below ("Contractor"), does hereby certify and warrant that, if selected the Contractor while performing the services required by the Request for Proposals, shall do so as an independent contractor and not as an officer, agent, or employee of the Tri-Dam Project.

The Undersigned further certifies that:

- 1) Contractor has no interest that would constitute a conflict of interest under California Public Contract Code section 10365.5, 10410 or 10411; or Government Code section 1090 *et seq.* or 87100 *et seq.*;
- 2) Contractor has not been a source of income or pay to any employee or officer of Tri-Dam within the past twelve (12) months;
- 3) During the qualifications process (the time from the date of issuance of the RFP to the award of the Contract), Contractor and its sub-contractors shall not contact or solicit Tri-Dam Board Members or staff in an attempt to influence the selection process, and that should such contact occur, Contractor or sub-contractor shall be disqualified from the RFP selection process.

Signature



Printed Name

Nicholas B. Jones

Title

President

Date

November 3, 2023

Ford Construction Company, Inc.

**EXHIBIT B
CERTIFICATION**

I certify that I have read and received a complete set of documents including the instructions for submitting a Proposal in response to the Request for Proposals.

I consent to the Tri-Dam Project contacting references included in the submitted Proposal for the purposes of obtaining information about projects and experience described therein.

I understand that information contained in the submitted Proposal is a public record without exception, and I understand that submittal of the Proposal constitutes a waiver of any claim that the information is protected from disclosure.

I consent to release of such materials by Tri-Dam if requested under the California Public Records Act without further notice, and agree to indemnify and hold Tri-Dam harmless for release of such information.

Signature  Date 11/3/23

Printed Name Nicholas B. Jones

Title President

Company Ford Construction Company, Inc.

Street 300 W Pine Street, Lodi, California 95240

Address 300 W Pine Street, Lodi, California 95240

Telephone 209-333-1116

E-mail est@ford-construction.com

Ford Construction Company, Inc.

EXHIBIT C
WORKERS COMPENSATION CERTIFICATION

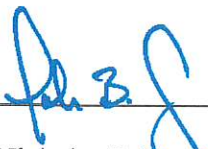
Labor Code section 3700 provides, in pertinent part:

“Every employer except the state shall secure the payment of compensation in one or more of the following ways:

- (a) By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state; or
- (b) By securing from the Director of Industrial Relations a certificate of consent to self-insure either and to pay any compensation that may become due to his or her employees.

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.

“CONTRACTOR”

By: 
Name: Nicholas B. Jones

Dated: November 3, 2023

Title: President



SYBLON REID

General Engineering Contractors

Providing Solutions to Difficult Projects

1130 Sibley Street
Folsom, CA 95630

P.O. Box 100
Folsom, CA 95763-0100

(916) 351-0457
(916) 351-1674 fax

srco@srco.com
www.srco.com

November 6, 2023

Kim Tarantino
Senior Project Administrator
Tri-Dam Project

RE: Tulloch Reservoir Shoreline Erosion and Day Use Remediation
Subject: Syblon Reid Proposal

Dear Kim:

Thank you for the opportunity to provide a Proposal for the Tulloch Reservoir Shoreline Erosion and Day Use Remediation (Project).

Syblon Reid has extensive experience in performing erosion mitigation and water-based/barge operations. Our Proposal package includes one-page narratives of several projects demonstrating our experience in rock slope protection (RSP) placement, mechanically stabilized earth (MSE) wall construction, barge-related work, and grouting.

Our Design Engineer, Chuck Kull with NV5, has partnered with Syblon Reid on a number of projects and has several successful mitigation projects to document his experience. Mr. Kull's résumé and qualifications are also included with our Proposal.

Syblon Reid intends to staff the Project with a Project Manager, Thomas McAuliffe, and Foreman, Bob Sweeney, both of whom have many years of related experience in erosion mitigation and barge work on multiple projects. Résumés for Mr. McAuliffe and Mr. Sweeney are provided as well.

Our Proposal is based on constructing an MSE wall at Site 3, placing RSP at Site 10, and constructing a gabion basket wall at site 11. We feel the MSE wall at Site 3 will be a more cost-effective and visually appealing solution than a shotcrete surface. It is also our opinion that, once the existing bank is stabilized against further erosion due to wave run-up from the lake side and runoff from the private property above, there should be no need for tie-backs or soil nails.

As shown in our Construction Schedule, it is our intent to proceed with engineering and final design approval immediately upon award and perform the onsite construction activities beginning in January through February 2024.

Again, we appreciate the opportunity to provide our Proposal for the Project. Should you have questions or require additional information, please do not hesitate to contact me.

Regards,
SYBLON REID

Bradley Schieckoff
Chief Estimator
916-351-0457
brads@srco.com

Encl.: Syblon Reid Proposal



Providing Solutions to Difficult Projects



B. Project Approach

B.1. Work Plan

Mobilization

Syblon Reid will mobilize the following equipment to the staging area at the RSP material borrow site (for subsequent delivery to individual sites by barge):

- ❖ 330 excavator (2 each)
- ❖ 336 excavator
- ❖ 352 excavator
- ❖ 950 loader (2 each)
- ❖ D6 dozer
- ❖ 14H blade
- ❖ 10-foot x 40-foot Flexifloat modular barge with appurtenances (option 1 - 4 each, option 2 - 8 each)
- ❖ Work skiff (3 each)
- ❖ 150-ton all-terrain crane
- ❖ Miscellaneous small tools, supplies, and materials

Equipment and barge floats will be delivered clean and free from invasive weeds/species.

Loading Dock

The loading dock will be located in the vicinity of the RSP material borrow site. A 50-foot section of shoreline will be cleared, graded, and prepped to accept a 30-foot x 30-foot U-shaped containment structure constructed with Eco-Blocks, filled with gravel, and capped with steel plates to provide equipment/material access from the shore onto the barges (refer to *Diagram 2* at the end of this Work Plan).

After construction is complete, the gravel will be removed from the containment structure and stockpiled at the RSP material borrow site. The Eco-Blocks and steel plates will then be removed from the site and the shoreline restored and reseeded, as necessary.



RSP Material Borrow Site

Prior to any onsite earth disturbing activities, all appropriate Stormwater Pollution Prevention Plan (SWPPP) Best Management Practices (BMPs) will be implemented, including placing a “rumble plate” at the construction entrance to the RSP material borrow site and silt fencing along shoreline at both the staging area and each site.

Required quantities of RSP material will be screened and sorted from native materials at the borrow site and stockpiled for loading out to the individual sites by barge. Sorting will be accomplished using a 352 excavator, 950 loader, and grizzly or vibratory screen. It is assumed ample RSP material (approximately 800 tons) can be obtained from the borrow site. Any RSP material necessary to supplement this quantity may be purchased offsite and hauled to the borrow site as extra work.

The borrow site will be rough regraded upon completion of the work.

Lake Navigation



Barge Work – Pit 3 Dam Crest Gate Bladder Replacement



Barge Work – Kerckhoff Dam Low-Level Outlet Gate Replacement

A 40-foot x 40-foot Flexifloat modular material barge will be constructed at the loading dock using a 150-ton all-terrain crane. The barge will be accessible, as necessary, via two portable landing ramps extending from the loading dock to the barge for loading materials and equipment (refer to *Diagram 2* at the end of this Work Plan). The barge will be outfitted with spuds for anchoring into the lakebed, a steel plate impact surface, and a 3-foot high curb around three sides to contain materials. The barge will accommodate a minimum of 50 tons of RSP material per load, as well as have the capacity to transport the 330 excavator, 950 loader, and various other small equipment and materials to each site. The barge will be navigated to and from the sites using two motorized work skiffs, each manned with two laborers. The portable landing ramps will be deployed to each site, if necessary, for offloading materials and equipment. If a road is

developed into Sites 10 and 11, only one such barge setup will be necessary. Due to schedule constraints, should all material be transported by barge to the sites, a second identical barge setup will be required.

Site-Specific Construction Details

Site 3

An initial topographic survey of the work site will be performed to establish the limits of work and layout of the MSE wall. This information will be used for slope staking for ultimate configuration of the excavation for the MSE wall.

The site will be cleared of debris, as necessary. Tree trunks and stumps will remain onsite and placed in a manner similar to existing conditions to supplement fish habitat. A bench will be cut parallel to the shoreline to facilitate access by equipment for the length of the MSE wall and barge docking. All loose slough material will be excavated and used as compacted backfill behind and above the MSE wall. The site will be excavated to the uppermost extent of sloughing at a slope of approximately 1:1 maximum.



MSE Wall – Flume 51 Replacement

An 8-foot wide key trench will be excavated at the high water elevation of 510 feet to except the foundation course of the MSE wall. The MSE wall will then be constructed in 2-foot lifts (refer to ***Detail 1*** at the end of this Work Plan) at a near vertical face to approximately elevation 516 feet and backfilled with 4 to 6-inch



MSE Wall – Brush Creek Boat Ramp

material. Approximately 1,140 tons of 4 to 6-inch material will be screened at the borrow site and transported by barge to Site 3. After the wall is completed to grade, the remaining upper slope will be filled and finish graded to create a 2:1 slope from the top of the existing slough and eroded areas to the face of the MSE wall (refer to ***Diagram 1*** at the end of this Work Plan). The 2:1 sloped area will then have coir mats, Armormax, additional rock, or similar installed to protect it against future erosion from the adjacent property. The MSE wall will follow the contour of the existing shoreline/slope (approximately 150 lineal feet), as

necessary. The exposed finish grade will be hand-seeded upon completion of the work. Note, the MSE wire facing materials will be galvanized.

Site 10

Sites 10 will be cleared of debris, as necessary. Tree trunks and stumps will remain onsite and placed in a manner similar to existing conditions to supplement fish habitat. A bench will be cut parallel to the shoreline to facilitate access by equipment for the length of the RSP and barge docking. The slopes will be excavated and graded to a uniform slope of approximately 1:1 maximum. All excess material will be used as compacted backfill to fill voids/depressions and create a more uniform surface. A keyway will be excavated along the toe of the RSP area. A layer of ¾ to 1½-inch crushed rock material will be placed as a cushion upon which fabric will be placed prior to placing RSP (refer to *Detail 3* at the end of this Work Plan). RSP material will either be transported by barge in 50-ton minimum loads or transported via a truck to the top of a pioneered access road and hauled to site via Terramac RT14R rotating tracked crawler carriers. Portable landing ramps will be placed from the barge to the shore, if necessary, to facilitate the offloading of material. RSP material will be placed using the 950 loader and a 330 excavator.

Hand-seeding will be performed upon completion of the work at the site, as necessary.



RSP - Oroville Dam Spillway Emergency Response



RSP - Eastwood Visitors Center Bank Stabilization

Site 11

Site 11 will utilize a gabion basket wall per details provided in the McMillen Jacobs Associates Technical Memorandum dated February 16, 2018. The site will be cleared of debris, as necessary. Tree trunks and stumps will remain onsite and placed in a manner similar to existing conditions to supplement fish habitat. A bench will be cut parallel to the shoreline to facilitate access by equipment for the length of the gabion basket wall and barge docking. Prior to installing the gabion basket wall, all voids will be filled with a cementitious grout material. Wood forms or sandbags will be installed at the void openings to contain the

grout. Due to the isolated location, the voids will be filled utilizing a drum mixer and bagged grout, as delivery of ready-mix CLSM is not economical. The material and equipment will be mobilized to the site via a barge and installed inside a spill containment system to prevent any grout from entering the water during batching and placing. Following grouting, the slopes above the planned gabion wall will be excavated and graded to a uniform slope of approximately 1:1 maximum. All excess material will be used as compacted backfill to fill voids/depressions and create a more uniform surface behind the wall. A 6-inch wide keyway will be excavated and filled with compacted granular material to provide an even subgrade for the baskets. These baskets will then be stacked two high and filled with 4 to 6-inch material screened at the borrow site. The gabion fill will either be transported by barge in 50-ton minimum loads or transported via a truck to the top of a pioneered access road and hauled to site via Terramac RT14Rs. Portable landing ramps will be placed from the barge to the shore, if necessary, to facilitate the offloading of material. Material will be placed using the 950 loader and a 330 excavator.

Note, Gabion Supply PVC coated baskets, as called out in the McMillen Jacobs Associates Technical Memorandum, may have a lead time of up to 3 months. In order to meet the project schedule, switching to a Hilfiker galvanized basket may be necessary. Hand-seeding will be performed, as necessary, upon completion of the work at the site.

Day Use Area

The scope of this activity includes replacing small rocks within the joints of an existing 350-foot long rockery wall, followed by grouting the joints up to 12-feet high. The site will be accessed via an exposed beach at the lake low level. Due to the height of the wall, scaffolding will be necessary to access the entire surface. Our procedure will be to re-pack large joints with smaller rocks, as necessary. We will then pressure wash the wall face to remove any loose surface material and organics in preparation for a scrub coat. After applying the scrub coat, a hand grout pump will be utilized to apply the patch material by inserting a one-inch diameter hose as deep into the cracks as possible to fill all joints. The joints will be hand-troweled and brushed to provide a rough broom finish.



Grouting Stacked Rock - NCPA Union Dam

Pioneered Road Access to Sites 10 and 11

The option to develop access road into Sites 10 and 11 will require that Tri-Dam gain permission from the landowner. We have significant concerns regarding getting the details of this approach worked out in time for construction to begin, as well as with any unknown landowner requirements that may be placed upon

the contractor for such use. Therefore, our price for installation of the road is based upon the following assumptions, and any changes will be considered compensatable.

Should access be granted under agreeable terms from the landowner, with sufficient time to construct the road, we would cap the existing gravel road with up to 6-inches of ¾-inch aggregate base material for a width of 12-feet from the end of the pavement to a wide spot in the road where a “goat trail” road branches off to follow the existing power poles approximately 3,200 linear feet away. As the existing access road was not visited during the job walk and its current condition is unknown, this rock cap will ensure an all weather access road and allow the use of on-



Terramac RT14R Rotating Tracked Crawler Carrier

road trucks to deliver aggregate materials for use in the permanent repairs. *Google Earth* shows multiple low valley areas where stormwater runoff appears to travel. It is unknown at bid time if culverts exist at these locations; therefore, we have included installation of small culverts at these locations to maintain all weather access. Material will be stockpiled at the location shown in **Detail 2** below and reloaded into tracked Terramac RT14Rs. These haul vehicles do not require maintained access roads, can handle up to a 50-degree slope, and have a rotating dump bed for easily delivering material in tight locations. The section of “goat trail” road will be left unimproved to the final power pole where new roads will be required. These roads will be developed by removing surface vegetation and minor surface improvements via a CAT D6 dozer. The dozer will remain onsite to clean up the pioneered road during material deliveries and after rain events to prevent the need for the road to dry out prior to resuming work. **Detail 2** below depicts these sections of road.

Our price includes regrading the unimproved and pioneered sections of access road, replacing and spreading the original topsoil, and placing biodegradable coir matting to stabilize the areas and allow plant regrowth. Due to the difficult access, we have not included hydroseeding of these access roads and will utilize the existing topsoil for vegetation regrowth. Aggregate base material placed on the existing roadway will be left as a permanent improvement and no repairs to existing paved roadways are included in our price. We have included silt fence along the pioneered roadway and no additional SWPPP BMPs along the existing roadways.

Miscellaneous

The quantity of RSP material will be confirmed based upon the use of the following:

- a) Barge gauging



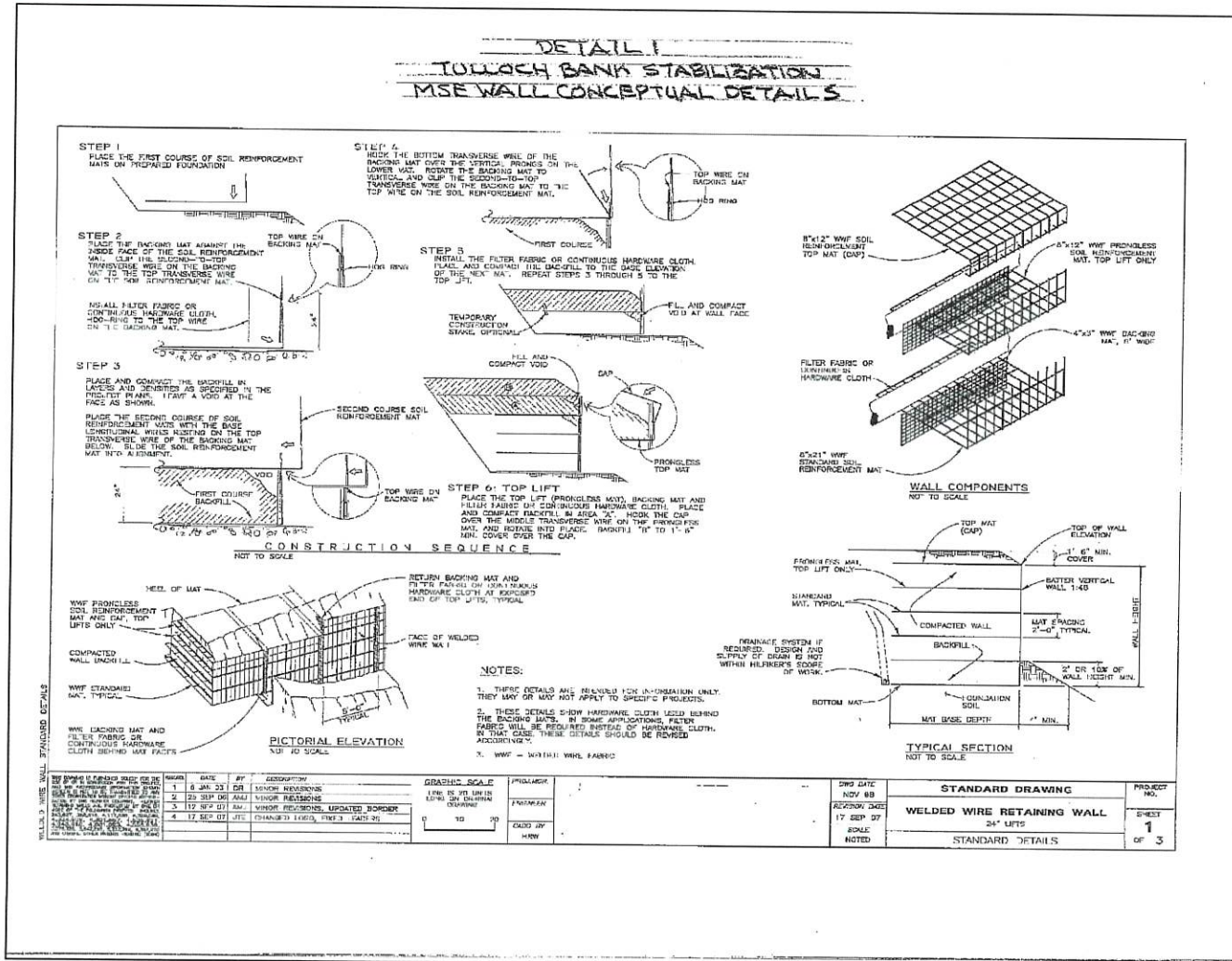
- b) Portable scale
- c) Other acceptable methods

Our proposed pricing is based on the following assumptions and clarifications:

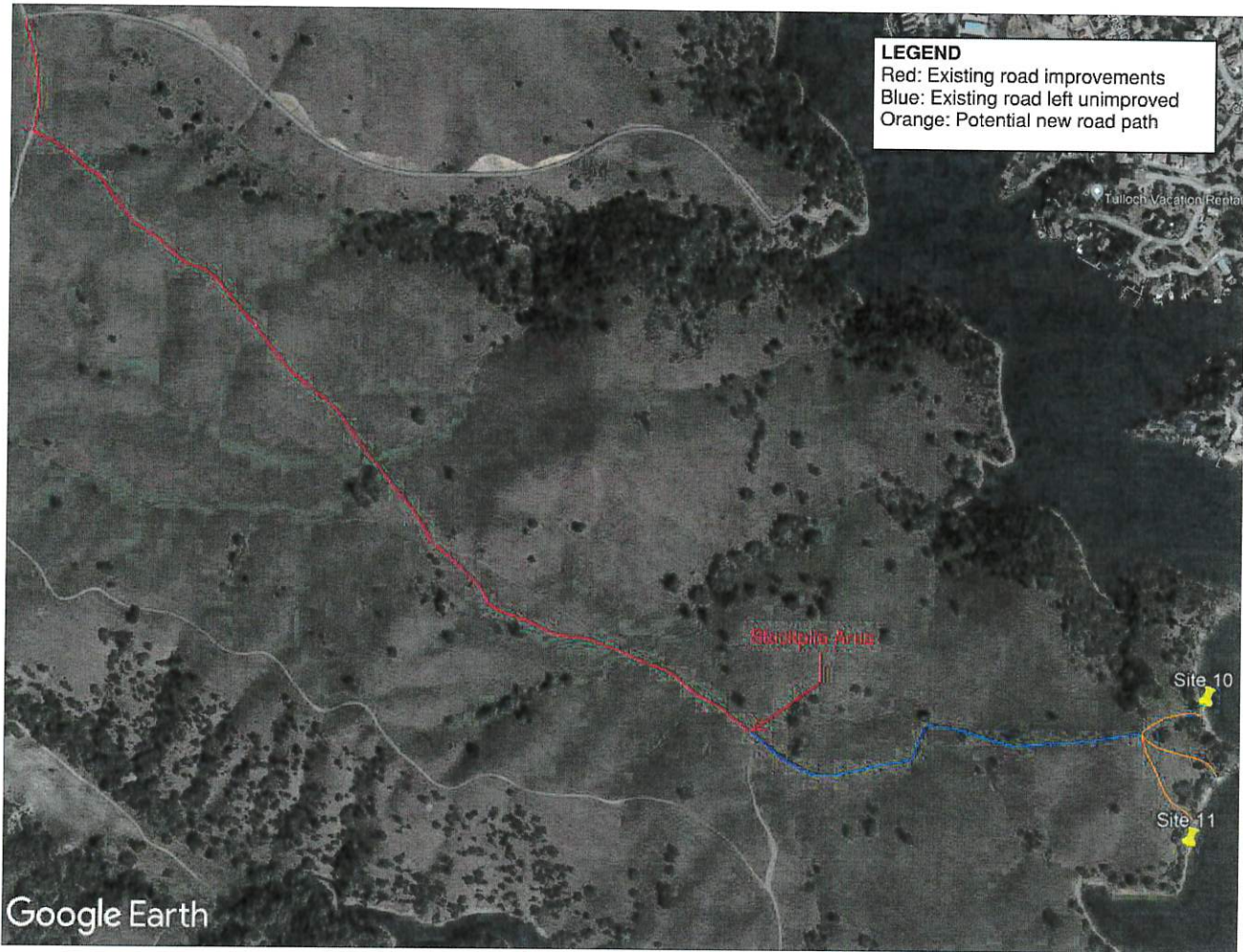
- ❖ Quantities of work and materials have been estimated based on the dimensions and conditions provided in the McMillen Jacobs Associates Technical Memorandum dated February 16, 2018. Any additional quantities of work and materials will be paid for on a unit price basis or negotiated pricing, as appropriate.
- ❖ Our proposed pricing is based on the site conditions that currently exist. If conditions change substantially prior to beginning work, we reserve the right to make appropriate adjustments to our proposed pricing.
- ❖ Negotiations involving design/construction and construction access to the homeowner's property at Site 3 will be conducted by the Tri-Dam Project. Costs for property owner requested changes are to be negotiated.
- ❖ Negotiations involving access to Sites 10 and 11 via private property access roads will be conducted by the Tri-Dam Project. Any deviations from our above-described plan due to SWPPP or landowner requirements will be a change.
- ❖ Work schedule: up to 10 hours per day, 6 days per week, as daylight allows. No costs for Tri-Dam Project personnel overtime and inspections are included.
- ❖ No soils report has been made available at bid time; therefore, the design is based on visual observations.
- ❖ Surveying services at each location will include the initial topographic survey and construction staking for final design.
- ❖ Builders risk insurance to be carried by the Owner.
- ❖ Bond cost is included.
- ❖ Proposal based on a mutually agreeable contract and schedule of values.



Detail 1 - MSE Wall Concept Details



Detail 2 – Access Road Map



Detail 3 - Typical RSP Section

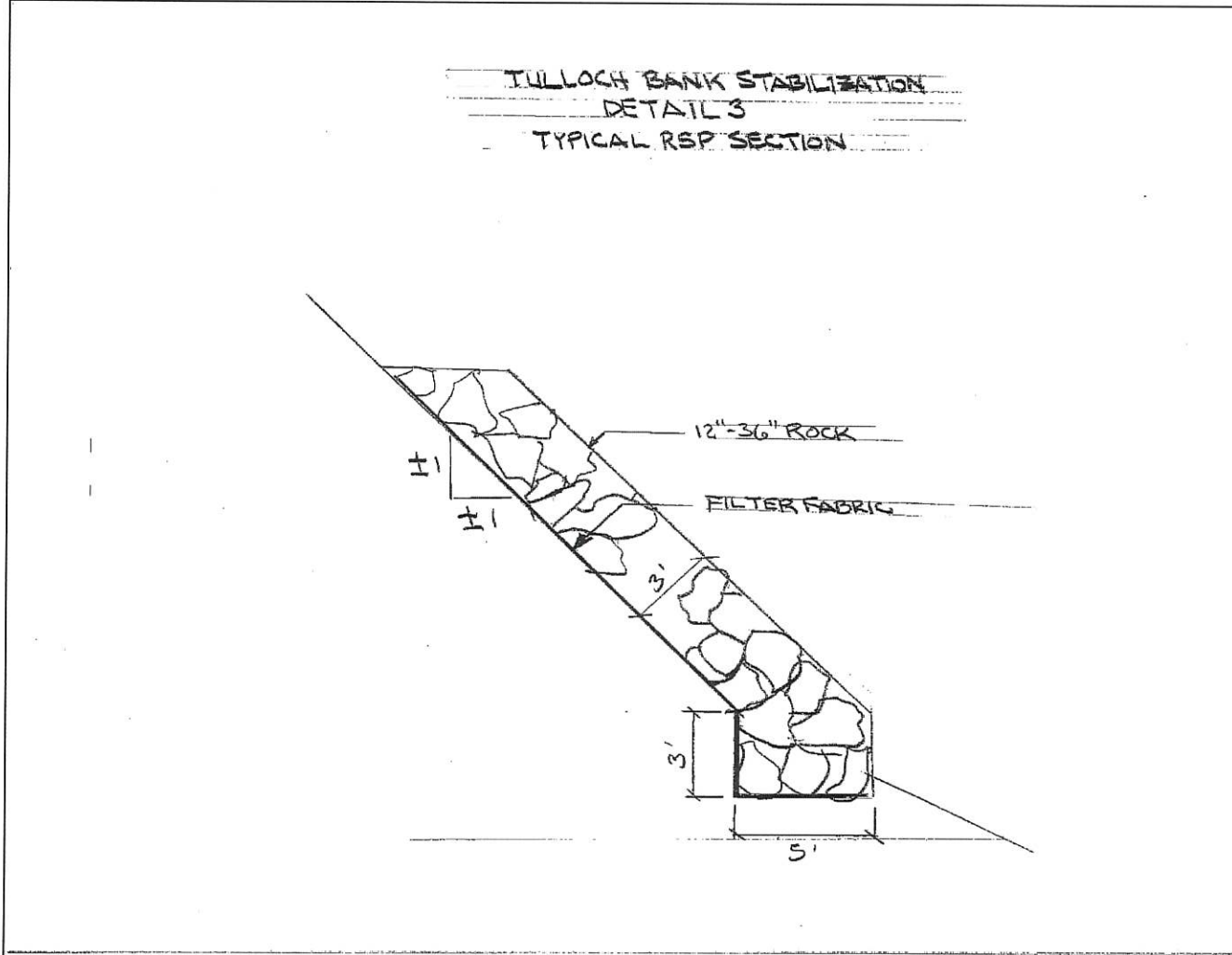


Diagram 1 - MSE Wall, Site 3

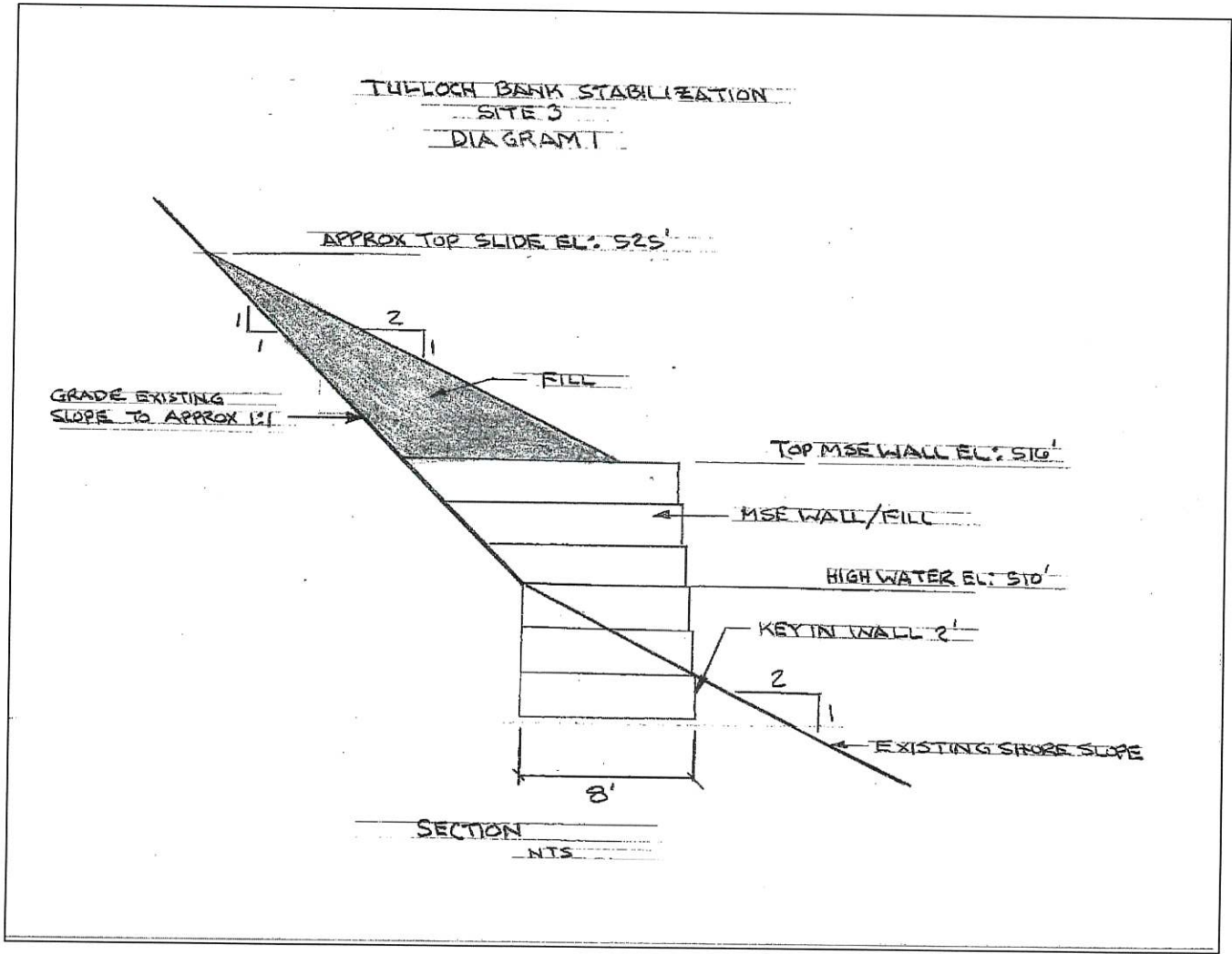
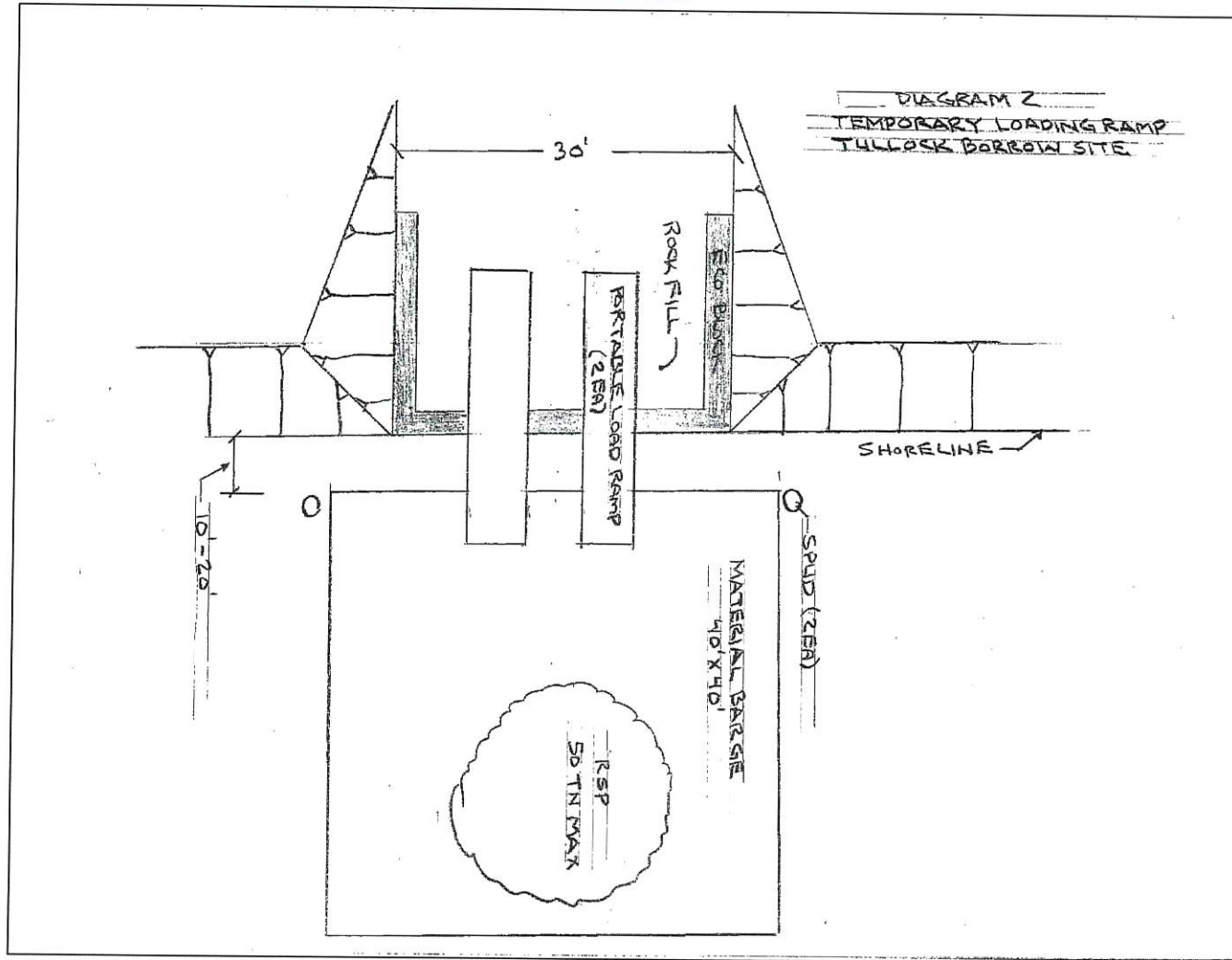


Diagram 2 - Temporary Loading Ramp, Tulloch Borrow Site



**SYBLON REID
TULLOCH RESERVOIR SHORELINE EROSION RESTORATION**

Work Item No	Description	Qty	Unit	Unit Price	Total
1	Mobilization/Planning	1	LS	\$ 540,000.00	\$ 540,000.00
2	SWPP	1	LS	\$ 150,000.00	\$ 150,000.00
3	Loading Dock	1	LS	\$ 75,000.00	\$ 75,000.00
4	Process/Load RSP/MSE Bkfl at Borrow Site	1	LS	\$ 205,000.00	\$ 205,000.00
5	Site 3 MSE Wall	1800	SF	\$ 220.00	\$ 396,000.00
6	Site 10 RSP	800	TNS	\$ 70.00	\$ 56,000.00
7	Site 11 Void Filling	10	CY	\$ 4,800.00	\$ 48,000.00
8	Site 11 Gabion Wall	1200	SF	\$ 155.00	\$ 186,000.00
9	Day Use Mortar Repair of Joints	4200	SF	\$ 35.00	\$ 147,000.00
10	Pioneer Road & Deliver Materials Site 10 & 11	1	LS	\$ 395,000.00	\$ 395,000.00
Option 1 Total with Road:					\$ 2,198,000.00
11	Barge Materials to Site 10 & 11	1	LS	\$ 390,000.00	\$ 390,000.00
Option 2 Total with all Material Barged:					\$ 2,193,000.00

**EXHIBIT B
CERTIFICATION**

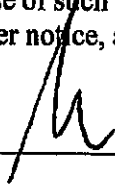
I certify that I have read and received a complete set of documents including the instructions for submitting a Proposal in response to the Request for Proposals.

I consent to the Tri-Dam Project contacting references included in the submitted Proposal for the purposes of obtaining information about projects and experience described therein.

I understand that information contained in the submitted Proposal is a public record without exception, and I understand that submittal of the Proposal constitutes a waiver of any claim that the information is protected from disclosure.

I consent to release of such materials by Tri-Dam if requested under the California Public Records Act without further notice, and agree to indemnify and hold Tri-Dam harmless for release of such information.

Signature



Date 11/6/2023

Printed Name Gregory B. Cederstrom

Title President, Syblon Reid Construction Inc., Partner

Company Syblon Reid

Street

Address 1130 Sibley Street, Folsom, CA 95630

Telephone 916.351.0457

E-mail gregc@srco.com



A. Consultant and Subcontractor Information

A1. General Information

Sierra Mountain Construction, Inc.
November 6, 2023

Tri-Dam Project
Attention: Justin Calbert
31885 Old Strawberry Road
Strawberry, CA 95375

Sierra Mountain Construction, Inc. (SMCI) is pleased to submit our qualifications and proposal package in response to the request for proposal "Tulloch Reservoir Shoreline Erosion and Day Use Remediation". Using expertise from past projects similar in size and scope, SMCI will maintain the highest standards of safety and quality in delivering a successful project.

Our key personnel come from a multitude of backgrounds in the engineering and construction fields, contributing to SMCI's wide array of talent and experience. Key personnel, complemented with a high level of expectation for all our employees, have translated into exceptional project quality and owner satisfaction, an excellent safety record, and successful completion of numerous challenging projects.

Headquarter Address of Firm Submitting Response

Sierra Mountain Construction, Inc.

License # 885550

19500 Nugget Blvd, CA 95370

Phone: 209-928-1900

Fax: 800-507-5295

Email: doug@sierramtn.net

On behalf of Sierra Mountain Construction, we would like to thank you for the opportunity to present our qualifications and look forward to hearing from you.

Respectfully Submitted,
Douglas J. Benton, President
Sierra Mountain Construction, Inc.



B. Approach

B1a. Project Approach

Tasks	Remediation Measure
Site 3	Corrective Action III (Soil Nail Wall)
Site 10	Corrective Action 1 (Riprap)
Site 11	Corrective Action II (Gabion Baskets)
Day Use	Grout
Project Access	Barge

Site 3

SMCI has selected **“Corrective Action III” (Soil Nail Wall)** as the only viable option for Site 3 based off MJA’s findings. The soil nail wall proposed will extend to the full height of the scarp face and have a conservative design. Along with SMCI’s conservative design comes a 50/50 cost savings opportunity if further testing reveals the design can be safely reduced.

Site 10

SMCI has selected **“Corrective Action I” (Riprap)** as the most effective slope remediation plan considering cost, schedule, and longevity. Based off MJA’s findings, we propose a riprap apron to extend the full length of the eroded slope or 4’ above the high-water mark.

Site 11

SMCI has selected **“Corrective Action II (Gabion Baskets)** as the most effective slope remediation plan considering cost, schedule, and longevity. Based off MJA’s findings, we propose the gabion wall extends the full length of the eroded bank, approximately 200LF. However, if upon assessment riprap is a sufficient stabilization measure, SMCI will pivot and provide more cost savings to Tri-Dam.

Day Use Area

SMCI will place mortar in and across joints on the lakeside face of the existing stack rock wall. This improvement will protect approximately 350LF of shoreline.

Project Access

SMCI proposes to barge equipment to and from the project sites. This will result in the lowest environmental impact, limit private owner outreach and disputes, and is more efficient than cutting access roads. SMCI acknowledges the benefit of low impact project delivery methods. However, the alternate access option pricing will be provided per addendum 2.



B1b. Work Plan

Pre-Construction

Task	Work Plan
<p align="center">Site Evaluation</p>	<p>SMCI, along with our engineering consultant, propose a visual evaluation of all sites via aluminum skiff. Based off the empirical evidence gathered from the site visits and MJA's shoreline stabilization plan, a site-specific remediation plan will be discernable. In the case of Site 3, the grouted dowel reinforcing will be a conservative design based off the physical evaluation, collective industry experience, and testing during construction.</p>
<p align="center">Design</p>	<p>SMCI is proposing the corrective actions outlined in the MJA's shoreline stabilization plan, based off the pre job site visit and the evidence provided within Tri-Dam's RFP. SMCI will provide geostructural calculations for Site 3 and engineered construction drawings for each site.</p> <ul style="list-style-type: none"> • Site 3 "Corrective Action III" <ul style="list-style-type: none"> ➤ (Soil nail wall with no additional underpinning) • Site 10 "Corrective Action I" <ul style="list-style-type: none"> ➤ (Riprap slope stabilization) • Site 11 "Corrective Action II" <ul style="list-style-type: none"> ➤ (Gabion Baskets and structural fill)
<p align="center">Procurement</p>	<p>SMCI will procure the necessary materials and equipment to complete all remediation efforts expressly outlined in Tri-Dam's RFP. SMCI acknowledges the necessary equipment includes a tug and barge for transport, earth moving equipment for excavation, rock placement, drilling, and rock screening, and finally the means to place shotcrete in a remote location.</p>
<p align="center">Site Access</p>	<p>The remote sites, "3,10,11", are most efficiently accessible by barge. Therefore, our approach to site access is assembling a flexifloat modular pontoon system, or equal (See Figure 1[↓]).</p> <ol style="list-style-type: none"> 1. The barge design will be based on a pervious design used by SMCI. <ul style="list-style-type: none"> ➤ This barge design is 80'x40' and includes (6) 40'x10' Quadrafloats and 4-20'x10' Duofloats and two spud wells. This barge system will be capable of hauling up to 80 Tons safely. (See Figure 2[↓]). 2. The barge system will be powered by truckable work boats. <ul style="list-style-type: none"> ➤ These small tugs are powerful enough to push the proposed barge system but can be legally trucked without any special permits.

Figure 1



Figure 1 depicts a fully assembled flexifloat pontoon system.

Figure 2

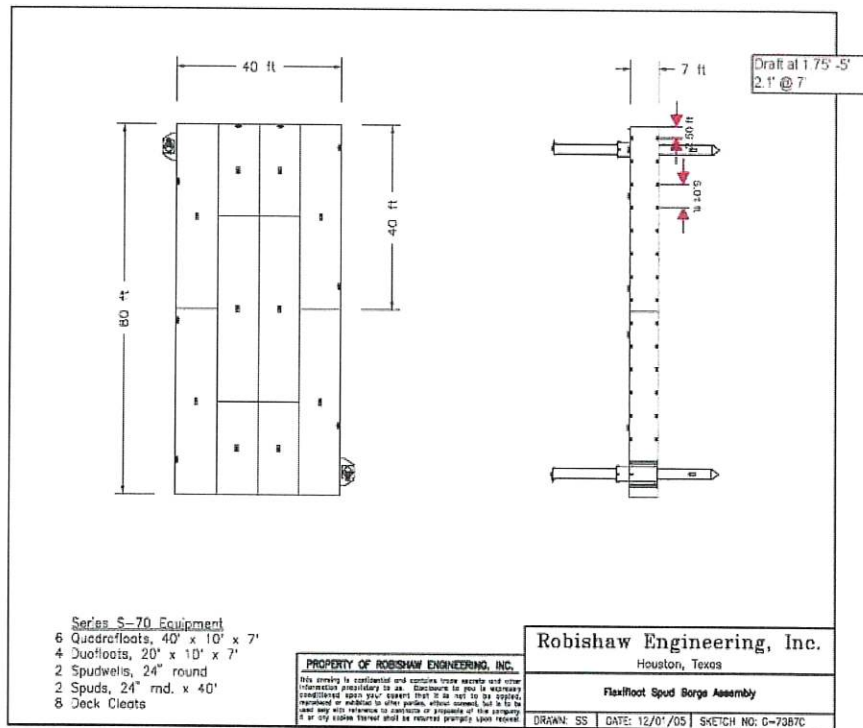


Figure 2 depicts the design for the barge assembly.



Construction


Task	Work Plan
<p style="text-align: center;">Barge Assembly</p>  <p style="text-align: center;">Barge Assembly Complete</p>	<p>SMCI proposes constructing a barge system to transfer equipment and materials beginning at Tulloch Dam boat ramp. This specialty construction method is low impact and highly efficient. However, if Tri-Dam chooses to select the access road construction method, an alternate workplan will be provided. The following is our proposed sequence for constructing the barge system:</p> <ol style="list-style-type: none"> 1. Grade Tulloch boat launch area with a wheel loader and excavator to allow access to water. <ul style="list-style-type: none"> ➤ Equipment: Excavator, wheel loader ➤ Materials: SWPPP measures 2. Install temporary crane pad for barge assembly. The temporary crane pad will be constructed using existing material and or crush rock paced back a wheel loader and excavator. <ul style="list-style-type: none"> ➤ Equipment: Excavator, wheel loader ➤ Materials: native material, crushed rock from local quarry 3. Stage modular pontoons and set up crane (See Figures 3⁺). <ul style="list-style-type: none"> ➤ Equipment: 80-100 ton crane ➤ Materials: Flexifloat modular pontoons or equal 4. Construct the main barge system. The modular pontoons will be pinned together, following as similar procedure to SMCI's recent barge assemblies (See Figures 4⁺). <ul style="list-style-type: none"> ➤ Equipment: 80-100 ton crane ➤ Materials: Flexifloat modular pontoons or equal 5. Develop launch area for equipment access and material staging onto the barge system. <ul style="list-style-type: none"> ➤ Equipment: Wheel loader, excavator 6. Remove barge system and lay erosion control matting and hydroseed in disturbed areas as necessary to reduce environmental impact. <ul style="list-style-type: none"> ➤ Equipment: Hydroseed trailer ➤ Materials: Coir netting, fiber rolls, non-invasive seed mix

Figure 3



Figure 3 depicts the assembly of pontoons on a recent SMCI project.

Figure 4

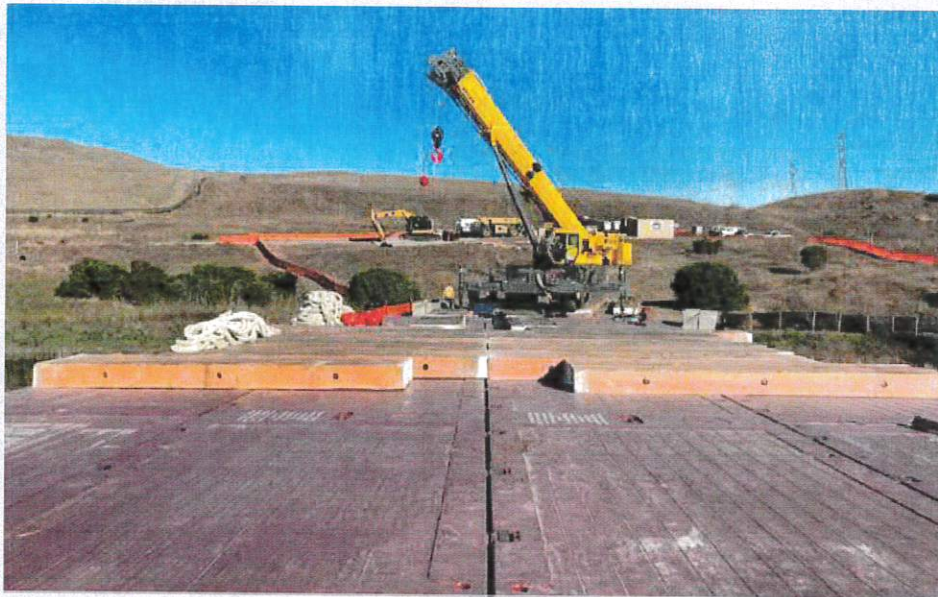


Figure 4 depicts SMCI's barge assembly after connection of modular units.



"Site 3"



SMCI has selected "Corrective Action III" (Soil Nail Wall) as the only viable option for Site 3 based off MJA's findings. The soil nail wall proposed will extend to the full height of the scarp face and has a conservative design (See Detail 5⁺). The following is our proposed sequence for constructing the soil nail wall at site 3:

1. **Clear, grub, and smooth slope face** with conventional excavator. Off haul debris and spoils via barge to permanent stockpile at Tulloch Dam.
 - Equipment: Excavator, skid steer, water trailer, deck barge, tug
 - Materials: SWPPP measures
2. **Install drain panels and weep holes on slope.** Access for upslope installation will be via man-lifts operating from the barge or at toe of slope.
 - Equipment: Man-lift
 - Materials: Mira Drain wall system, PVC weep hole
3. **Place and secure wire mesh and reinforcing.** Checking for adequate grade and coverage to slope face. Hoisting and access to be provided with the use of a manlift and excavator.
 - Equipment: Man-lift, excavator
 - Materials: 4"x4" welded wire fabric
4. **Form parapet of the wall at the top of slope.** Personnel access for this operation may be via manlift or private property at the top of slope pending permission from the property owners.
 - Equipment: Man-lift
 - Materials: Wooden form material
5. **Place 3" initial shotcrete section.** Shotcrete will be placed by a certified nozzleman from a manlift. Shotcrete pumps, compressors, gensets, and water tanks will be staged on site or on the barge. SMCI has determined the use of dry mixed shotcrete, where cementitious material is combined during application, will be most efficient and environmentally safe. This process will eliminate having to batch on site and or transport wet mix shotcrete to Site 3 via barge. (See Figure 6⁺).
 - Equipment: Shotcrete pump, compressor, gensets, water tanks
 - Materials: 4000 psi dry mix shotcrete




 <p>"Site 3" Complete</p>	<p>6. Drill, grout, and secure soil nail assembly. Soil nails will be installed from the top-down utilizing excavator mounted drills (See Figure 7⁺). Anchors are installed after the initial layer of shotcrete to support the existing slope during the installation process.</p> <ul style="list-style-type: none"> ➤ Equipment: Excavator, drill attachment, grout pot, pump ➤ Materials: Grout, epoxy coated #8 threaded bar, face plates, fasteners <p>7. Clean shotcrete face to prep initial shotcrete layer, secure a second layer of wire mesh if necessary. Hoisting and access to be provided with the use of a manlift and medium sized excavator.</p> <ul style="list-style-type: none"> ➤ Equipment: Man-lift, excavator, water trailer, pressure washer ➤ Materials: 4"x4" welded wire fabric <p>8. Place 3" final shotcrete repeating step 5.</p> <p>9. Place riprap protection at the toe of soil nail wall using conventional excavator.</p> <ul style="list-style-type: none"> ➤ Equipment: Barge, tug, excavator ➤ Materials: Riprap from local quarry or existing screened rock <p>10. Place erosion control matting and hydroseed, as needed, in disturbed areas within the project confines prior to demobilizing from the site.</p> <ul style="list-style-type: none"> ➤ Equipment: Hydroseed trailer ➤ Materials: Coir netting, fiber rolls, non-invasive seed mix
<p>Detail 5</p>	<p>The propped soil nail wall is assumed to have a 6" shotcrete section with W4xW4 4"x4" WWF reinforcing and #4 waler bars, parapet wall the top to with v-ditch to control surface drainage, #8 grouted bars on 5' centers both vertically with a 30' embedment length, and Riprap protection at base. The proposed soil nail wall design in this RFP is a conservative approach based on previous experience in this area. Cost sharing options may be recognized after a further geotechnical investigation is performed at Site 3 and final design is developed.</p> <p><i>Detail 5 explains the assumed specifications for the soil nail wall.</i></p>

Figure 6

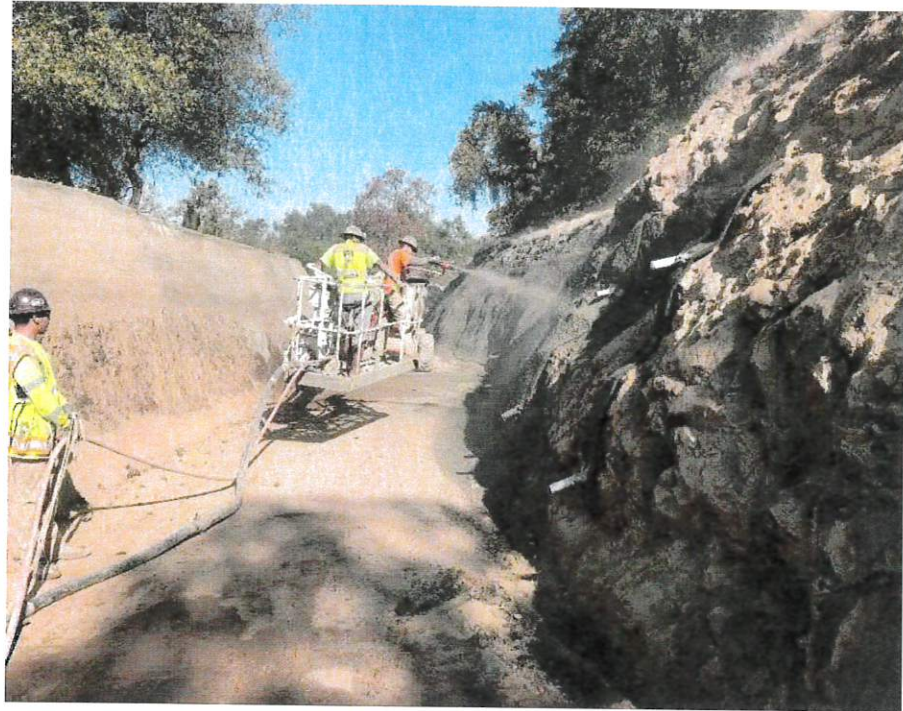


Figure 6 depicts a dry shotcrete operation on a recent SMCI Job.

Figure 7



Figure 7 depicts an excavator mounted drill on a recent SMCI Job.



"Site 10"



"Site 10"
Complete

SMCI has selected "Corrective Action I" (Riprap) as the most effective slope remediation plan considering cost, schedule, and longevity. Based off MJA's findings, we propose a rip rap apron to extend the full length of the eroded slope, approximately 200 LF. SMCI acknowledges that the size of the riprap is dependent on the slope angle (See Figure 8-9⁴). The following is our proposed sequence for constructing the riprap apron:

1. **Clear, grub, and excavate the slope face 4.5' above high-water level** with excavator. Off haul debris and extra spoils via barge to permanent stockpile at Tulloch Dam.
 - Equipment: Excavator, skid steer, deck barge, tug
 - Materials: SWPPP
2. **Barge aggregate material and angular riprap to project site.** Unload material and stage, unless placed directly from the barge.
 - Equipment: Excavator
 - Materials: Angular crushed rock
3. **Excavate keyway and place 6" of 1-1/2" crushed rock and geofabric** using an excavator and compactor.
 - Equipment: Excavator, compactor
 - Materials: 1-1/2" crush rock, non-woven geofabric
4. **Use native fill to regrade slope above scarp height** using a conventional excavator and compactor.
 - Equipment: Excavator, compactor
 - Materials: Onsite native fill
5. **Wrap a layer of non-woven geotextile fabric and crushed rock** on top of the impacted slope. Access will be provided via man lift.
 - Equipment: Excavator, man-lift
 - Materials: Non-woven geotextile fabric, 1-1/2"-3/4" crushed rock
6. **Interlock angular riprap with an excavator** from the barge or shore.
 - Equipment: Excavator, deck barge, tug
 - Materials: Angular riprap
7. **Place erosion control matting and hydroseed**, as needed, in disturbed areas within the project confines prior to demobilizing from the site.
 - Equipment: Hydroseed trailer
 - Materials: Coir netting, fiber rolls, non-invasive seed mix

Figure 8

Riprap Slope Angle	Minimum Weight (lb)	Minimum Diameter (in)
10	195	20
15	230	21
20	280	22
25	355	24
30	475	26
35	665	29
40	1000	34

Figure 8 depicts the riprap sizing requirements included in Tri-Dams RFP.

Figure 9



Figure 9 depicts an excavator placing riprap on a recent SMCI project.





"Site 11"




SMCI's approach to site 11 consists of barging all equipment and materials to the project site. The following is our proposed sequence of construction to install the gabion basket and necessary riprap in ordinance to MJA's drawings and recommendations.

1. **Clear, grub, and excavate the slope face 4.5' above high-water level** with excavator. Off haul debris and extra spoils via barge to permanent stockpile at Tulloch Dam.
 - Equipment: Excavator, skid steer, deck barge, tug
 - Materials: SWPPP
2. **Form and place CLSM in voids** by batching the material onsite. Then delay 72 hours before removal of formwork.
 - Equipment: Excavator
 - Materials: Angular crushed rock
3. **Barge crushed rock and angular riprap to project site.** Unload material and stage, unless placed directly from the barge.
 - Equipment: Excavator
 - Materials: Angular crushed rock, riprap
4. **Excavate keyway and place 12" of 1-1/2" crushed rock and geofabric** using an excavator and compactor at the toe of the scarp.
 - Equipment: Excavator, compactor
 - Materials: 1-1/2" crushed rock, non-woven geofabric
5. **Construct a layer of coated gabion baskets** and place them at the toe of the scarp face. Then fill baskets with recommended crushed rock using an excavator and skid steer for support (See Figure 10⁴).
 - Equipment: Excavator, skid steer
 - Materials: Gabion baskets, aggregate, rock fill
6. **Wrap void behind gabion layer with 3/4" crushed rock and geofabric.** Place the gravel filter with an excavator and skid steer for support.
 - Equipment: Excavator, skid Steer
 - Materials: Non-woven geofabric, 3/4" crushed rock

 “Site 11” Complete	<ol style="list-style-type: none"> 7. Offset the next gabion layer 1.5' and repeat step 5. 8. Repeat step 6. 9. Re-grade existing ground above gabion wall at a 2:1 angle or 1.5:1 slope angle dependent on slope topography. <ul style="list-style-type: none"> ➤ Equipment: Excavator ➤ Materials: Native material 10. Place and interlock angular riprap with an excavator from the barge or shore as needed. <ul style="list-style-type: none"> ➤ Equipment: Excavator, deck barge, tug ➤ Materials: Angular riprap per MJA’s spec. 11. Place erosion control matting and hydroseed, as needed, in disturbed areas within the project confines prior to demobilizing from the site. <ul style="list-style-type: none"> ➤ Equipment: Hydroseed trailer ➤ Materials: Coir netting, fiber rolls, non-invasive seed mix
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<p>Figure 10</p>	
	<p><i>Figure 10 depicts a gabion basket installation on a recent SMCI project.</i></p>



<p>"Day Use"</p>  <p>"Day Use" Complete</p>	<p>SMCI will place mortar in and across joints as well on the lakeside face of the existing stack rock wall. This improvement will protect approximately 350LF of shoreline.</p> <ol style="list-style-type: none">1. Prepare stacked rock wall surface for grout by pressure washing organic growth off rocks and mortar.<ul style="list-style-type: none">➤ Equipment: Pressure washer, water trailer2. Place Type M mortar with a water repelling admixture across joints and between voids using a pump fed by ready mix trucks.<ul style="list-style-type: none">➤ Equipment: Grout pump➤ Materials: Type M mortar, water repelling admixture3. Rehabilitate and clean area after construction using a pressure washer.<ul style="list-style-type: none">➤ Equipment: Pressure washer, water trailer
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C. Fee Schedule

	DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL
GENERAL CONDITIONS					
1	Pre-Construction Surveys and Site Assessments	1	LS	\$175,000.00	\$175,000.00
2	Pre-Construction Design and Engineering	1	LS	\$83,000.00	\$83,000.00
3	QC/QA Plan and Implementation	1	LS	\$160,000.00	\$160,000.00
4	As-Built Drawings and Engineering Certificate	1	LS	\$20,000.00	\$20,000.00
5	General Overhead and Job Management	1	LS	\$850,000.00	\$850,000.00
6	Mobilization and Demobilization	1	LS	\$1,200,000.00	\$1,200,000.00
7	Environmental Requirements, SWPPP and Erosion Control	1	LS	\$130,000.00	\$130,000.00
SUBTOTAL-GENERAL CONDITIONS:					\$2,618,000.00
DAY USE AREA					
SUBTOTAL-DAY USE AREA:					\$68,000.00
SITE 3 CONSTRUCTION					
8.1	Site Preparation	1	LS	\$96,000.00	\$96,000.00
8.2	Soil Nails	4500	LF	\$116.00	\$522,000.00
8.3	Shotcrete	420	SY	\$520.00	\$218,400.00
8.4	RipRap Protection	50	CY	\$500.00	\$25,000.00
8.5	Drainage Modifications at Structure	1	LS	\$10,000.00	\$10,000.00
SUBTOTAL-SITE 3:					\$871,400.00
SITE 10 CONSTRUCTION					
10	Site Preparation	1	LS	\$70,000.00	\$70,000.00
10	Slope Grading and Keyway Construction	500	CY	\$400.00	\$200,000.00
10	RipRap Protection	450	CY	\$435.00	\$195,750.00
SUBTOTAL-SITE 10:					\$465,750.00
SITE 11 CONSTRUCTION					
11	Site Preparation	1	LS	\$73,000.00	\$73,000.00
11	Slope Grading and Keyway Construction	500	CY	\$400.00	\$200,000.00
11	Grout Voids	10	CY	\$5,600.00	\$56,000.00
11	Gabion Baskets	225	CY	\$900.00	\$202,500.00
SUBTOTAL SITE 11:					\$531,500.00
TOTAL ESTIMATED PRICE:					\$4,554,650.00
OPTIONS AND ALTERNATES					
THIS ITEM WOULD BE AN ADDITIONAL COST TO THE TOTAL BID PRICE; NO CREDIT BACK TO TRI-DAM					
ACCESS ROAD TO SITES 10 AND 11		SUBTOTAL-ACCESS ROAD:			\$200,000.00

Tulloch Shoreline Erosion & Day Use Remediation Permit Fees

- **California Department of Fish & Wildlife**
 - Lake & Streambed Alteration (LSA) Standard Agreement
 - Region 2 (Calaveras County)
 - Day Use = \$3860.25
 - Site 10 = \$5235.75
 - Site 11 = \$3860.25
 - Total = \$12,956.25
 - Region 4 (Tuolumne County)
 - Site 3 = \$5235.75
 - Total = \$5235.75
 - **CDFW Grand Total \$18,192.00**
- **United States Army Corps of Engineers**
 - Section 404 Permit
 - No permit fees.
- **California State Water Boards – Central Valley Regional Water Quality Control Board**
 - 401 Water Quality Certification
 - **\$2985.00**
- **Tuolumne County**
 - Engineered Grading Permit – Site 3
 - Grading Plan Review and Permit – Over 400 cubic yards = \$1608.75
 - Grading Inspection – 401-2,000 cu yds - \$663.00 + \$0.18 per cu yd. = \$794.40
 - Grading Exempt Fee = \$155.00
 - **Grand Total? = \$2558.15**
- **Calaveras County**
 - Engineered Grading Permit
 - **\$1313.00** deposit. Total fee could be under or over this amount. Final amount determined by actual time spent working on project.

Permit Fee Grand Total: \$25,048.15

BOARD AGENDA REPORT

Date: December 21, 2023

Staff: Summer Nicotero

SUBJECT: FERC Required Cultural Resources Monitoring

RECOMMENDED ACTION: Review and authorize the General Manager to sign a Professional Services Agreement with PAR Environmental Resources to perform FERC required cultural resources monitoring for the Donnells/Beardsley (P-2005) and Tulloch (P-2067) Projects.

BACKGROUND AND/OR HISTORY:

Tri-Dam's FERC licenses for the Donnells/Beardsley Project (P-2005) and Tulloch Project (P-2067) require conformance with the National Historic Preservation Act of 1966 (Section 106), and its implementing regulations found at 36 CFR 800. These regulations require federal agencies, such as FERC, to take into account the effects of their projects on historic properties and to consult with tribes and agencies, as appropriate.

Tri-Dam was required to conduct extensive cultural resource inventories and agency consultation as part of the FERC licensing process. In order to satisfy state and federal requirements, FERC entered into a Programmatic Agreement (PA) with the California State Historic Preservation Officers on September 21, 2005, for managing historic properties in the State of California. Upon issuance of the Beardsley/Donnells and Tulloch licenses, Article 408 was included, which requires Tri-Dam to implement the stipulations outlined in the PA, including a Historic Property Management Plan (HPMP) for each project. These regulations require annual reports of cultural resources, evaluation of any impacts, and consultation with agencies and tribes, where needed.

Tri-Dam originally contracted with HDR from the license adoption in 2006 to 2021. From 2021 to 2023 PAR Environmental Services was contracted for this requirement. The current contract is in effect until December 31, 2023. Staff requested quotes from three firms familiar with both the project, and required Cultural Monitoring and Reporting, for a three (3) year period, 2024-2026. Three proposals were requested and only two firms responded, with "not to exceed" totals for the three-year (3) period. An additional line item for optional evaluations of 6 sites was also included. The proposals are as follows:

	<u>M&R</u>	<u>+OEs Total</u>
a. PAR Environmental Services	\$76,820	\$327,758
b. Far Western Anthropological Research Group Inc.	\$161,122	Not Included
c. HDR Engineering Inc.	Decline to Bid	

Two firms provided proposals, both responsive to bidding specifications and possessing the requisite technical abilities and experience to perform the needed work. Staff recommends that PAR Environmental Resources be selected to perform the cultural monitoring and reporting for 2024-2026, with an anticipated annual budget breakdown as noted:

	<u>M&R</u>	<u>+OEs Total</u>
Year One (2024)	\$ 29,220	\$112,866
Year Two (2025)	\$18,380	\$102,026
Year Three (2026)	\$29,220	\$112,866

FISCAL IMPACT: This Professional Service Agreement will cover the full three-year period (2024-2026), and the Year One (2024) budget amount of \$29,220 has been included in the fiscal year 2024 budget.

ATTACHMENTS: PAR Environmental Services proposal, Far Western Anthropological Research Group proposal.

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

Action(s) to be taken:



ESTABLISHED 1982

PAR ENVIRONMENTAL SERVICES, INC.

Cultural Resource Management ■ Biology ■ Environmental Planning

November 21, 2023

Justin Calbert
Interim License Compliance
Tri-Dam Project
P.O. Box 1158
Pinecrest, CA, 95364

RE: Cultural Resources Monitoring and Reporting Services Tri-Dam Project (PAR Ref 130-23-49)

Dear Mr. Calbert:

PAR Environmental Services, Inc. is pleased to submit the attached proposal to assist the Tri-Dam Project in meeting their Section 106 requirements for implementing the Historic Property Management Plan (HPMP) for the project and completing annual reports of cultural resources activities to be submitted to agencies and tribes. PAR is a small, woman-owned business enterprise (WBE) California S-Corporation headquartered in Sacramento, California. We are certified by the California Public Utilities Commission as a WBE.

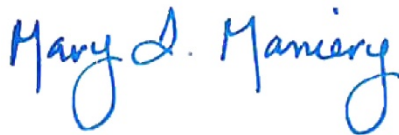
We have worked in Tuolumne County and for the United States Forest Service for many years. In the past four years, we've performed many cultural resources project for Tri-Dam in fulfillment of the FERC requirements for cultural resources at both Beardsley-Donnels and Tulloch Reservoir. We are familiar with the level of effort and the filing process needed to continue to meet these requirements.

Some other recent work in the region completed for Tri-Dam besides the annual monitoring was a project in which PAR conducted monitoring, recordation, and flagging at six locations within Stanislaus National Forest. This work was done in accordance to the PA and Historic Properties Management Plan in place within the STF. In addition, we completed Phase II evaluations of the three sites understudy, assessed effects on those sites, prepared a Memorandum of Agreement and developed a treatment plan in response to a finding of adverse effect. We then completed the data recovery work at those sites. We have completed Phase II evaluations of five sites within the Spring Gap-Stanislaus Hydroelectric System for PG&E in Tuolumne County, including evaluation of a work camp and the Stanislaus Railroad. We completed site and built environment evaluations and affect assessments for structures within the Pinecrest community and treatment measures designed to avoid effects on eligible resources. In past years we have conducted studies, recorded, evaluated, and mitigated effects on logging railroad systems and associated work camps on the Tahoe, Plumas, Lassen, and Stanislaus national forests and are experienced in evaluating and implementing treatment plans for these types of work-related resources. All work on these projects was subject to review and acceptance by the STF, the SHPO, and in compliance with FERC requirements.

In the past we have worked under contract direct to the STF and have also been involved or responsible for numerous projects that have required procuring ARPA permits from the STF. Our work has passed through the heritage resource officers inspections. We understand the STF protocols and their Programmatic Agreement conditions, know both Kathy Strain and Lisa DeHart, and have had our work reviewed by one or both of them numerous times. We have also completed over 50 projects subjected to FERC compliance for a variety of energy companies, including PG&E, Tri-Dam, Sacramento Municipal Utility District, East Bay Municipal Utility District, and many others. We are pleased that our work consistently goes through STF and SHPO review with little or no revisions. We have a good track record with agencies and SHPO and are proud of our achievements.

We appreciate you taking the time to review our packet. Please let me know if you need additional information or have any questions on our submittal. The project contact person will be Andrea E. Maniery. Her email is aemaniery@parenvironmental.com and her direct office line is 916-287-9118.

Cordially
PAR Environmental Services, Inc.



Mary L. Maniery
President

Tri-Dam Project Cultural Resources Monitoring

Prepared for Tri-Dam Project

11.16.23 (130-23-49)

		Year One	Year Two	Year Three	Total Not to Exceed
Task I	Management/Permitting	\$ 5,810.00	\$ 5,810.00	\$5,810.00	\$ 17,430.00
Task IIa	Monitoring (annual)	\$ 3,800.00	\$ 3,800.00	\$3,800.00	\$ 11,400.00
Task IIb	Monitoring (conditional)	\$ 2,900.00	\$ 2,900.00	\$2,900.00	\$ 8,700.00
Task IIc	Monitoring (5-year)*	\$ 4,560.00	\$ -	\$4,560.00	\$ 9,120.00
Task III	Reporting (annual)	\$ 12,150.00	\$ 5,870.00	\$12,150.00	\$ 30,170.00
Task IV	Optional Evaluation**	\$ 83,646.00	\$ 83,646.00	\$ 83,646.00	\$ 250,938.00
	TOTALS	\$ 112,866.00	\$ 102,026.00	\$112,866.00	\$ 327,758.00

*Five-year monitoring to occur in 2024 and 2026

**assumes 6 medium sized sites: 2 first year, 2 second year, 2 third year

Mary L. Maniery

Mary L. Maniery

President, PAR Environmental Services, Inc.

11.16.23

Date

Tri-Dam Cultural Monitoring and Reporting

Task 1. Management and Permitting

Prepared for Tri-Dam Project

10/29/2020 (130-20-24)



Task/Personnel	Function	Rate/hr.	Hours	Total
Task I. Project Management/ARPA Permit				
M. L. Maniery	<i>Principal</i>	\$195.00	2	\$390
J. G. Maniery	<i>Principal</i>	\$190.00	8	\$1,520
AE Maniery	<i>Sr. Archaeologist</i>	\$150.00	26	\$3,900
	Total			\$5,810

Mary L. Maniery

Mary L. Maniery
President, PAR Environmental Services, Inc.

29-Oct-20

Date

Archaeological Work for Tri-Dam Cultural Monitoring
 Task II: Annual Monitoring with Options for Conditional Monitoring
 Prepared for Tri-Dam Project
 11.16.23 (130-23-49)

Task/Personnel	Function	Rate/hr.	Hours	Total
Task 2a: Annual Monitoring				
AE Maniery	PI	\$150.00	10	\$1,500
D Malarchik	Sr. Bio archaeologist	\$140.00	10	\$1,400
Arch Tech 1	Associate Arch.	\$90.00	10	\$900
Arch Tech 2	Associate Arch.	\$80.00	0	\$0
Total				\$3,800
Task 2b: Conditional Monitoring				
AE Maniery	PI	\$150.00	10	\$1,500
D Malarchik	Sr. Bio archaeologist	\$140.00	10	\$1,400
Arch Tech 1	Associate Arch.	\$90.00	0	\$0
Arch Tech 2	Associate Arch.	\$80.00	0	\$0
Total				\$2,900
Task 2c: 5-year Monitoring				
AE Maniery	PI	\$150.00	12	\$1,800
D Malarchik	Sr. Bio archaeologist	\$140.00	12	\$1,680
Arch Tech 1	Associate Arch.	\$90.00	12	\$1,080
Arch Tech 2	Associate Arch.	\$80.00	0	\$0
Total				\$4,560
TOTAL LABOR				\$11,260
Expenses				
Mileage		\$0.575	700	\$403
Trimble Fee		\$55.00	2	\$150
Total				\$553
Fee				\$55
Total Estimated Cost-Cultural Resources				\$11,868

Mary L. Maniery

Mary L. Maniery
 President
 PAR Environmental Services, Inc.

11.16.23

Date

Tri-Dam Cultural Resources Monitoring
 Task III. Monitoring Reporting
 Prepared for Tri-Dam Project
 11.16.23 (130-23-49)

Task/Personnel	Function	Rate/hr.	Hours	Total
Management and Coordination of Reporting-specific tasks				
M. L.. Maniery	<i>Principal</i>	\$195.00	1	\$195
AE Maniery	<i>PI</i>	\$150.00	4	\$600
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	2	\$280
K. Alex	<i>GIS/Graphics</i>	\$120.00	2	\$240
Total				\$1,315
Report (based on 12 sites monitored per year)				
M. L.. Maniery	<i>Principal</i>	\$195.00	1	\$195
AE Maniery	<i>PI</i>	\$150.00	16	\$2,400
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	56	\$7,840
TBD	<i>Associate Arch</i>	\$90.00	8	\$720
K. Alex	<i>GIS/Graphics</i>	\$120.00	16	\$1,920
Total				\$13,075
TOTAL LABOR				\$14,390
Expenses				
Duplication		\$0.25	300	\$75
Total				\$75
Fee on Expenses				\$8
Total Estimated Cost-Cultural Resources				\$14,473

Mary L. Maniery

 Mary L. Maniery
 President, PAR Environmental Services, Inc.

11.16.23

 Date

TriDam Monitoring and Reporting
 Task IV. OPTIONAL Evaluation Task (per site)
 Prepared for Tri-Dam Project
 11/16/2023 (130-23-49)

Task/Personnel	Function	Rate/hr.	Hours	Total
Research/Prefield Prep/ARPA Permit				
M. L.. Maniery	<i>Principal</i>	\$195.00	2	\$390
AE Maniery	<i>PI</i>	\$150.00	8	\$1,200
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	0	\$0
K. Alex	<i>GIS/Graphics</i>	\$120.00	4	\$480
Total				\$2,070
Field (cost based on small sized site)				
AE Maniery	<i>PI</i>	\$150.00	12	\$1,800
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	12	\$1,680
TBD	<i>Arch Tech</i>	\$90.00	10	\$900
TBD	<i>Arch Tech</i>	\$80.00	0	\$0
Total				\$4,380
Analysis				
A. E.. Maniery	<i>PI</i>	\$150.00	2	\$300
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	8	\$1,120
TBD	<i>Arch Tech</i>	\$90.00	0	\$0
Total				\$1,420
Report				
A.E.Maniery	<i>PI</i>	\$150.00	8	\$1,200
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	32	\$4,480
TBD	<i>Associate Arch</i>	\$90.00	0	\$0
K. Alex	<i>GIS/Graphics</i>	\$120.00	4	\$480
Total				\$6,160
TOTAL LABOR				\$14,030
Expenses				
Mileage		\$0.625	300	\$188
Hotel		\$175.00	0	\$0
Per Diem		\$59.00	0	\$0
Metal Detection Fee		\$30.00	1	\$30
Duplication		\$0.25	200	\$50
Trimble Fee		\$55.00	1	\$55
Tribal Monitor (IF PRECONTACT SITE AND REQUESTED)		\$150.00	12	\$1,800
Analysis (placeholder estimate, may be more or less)				\$1,000
Total				\$3,123
Fee on Expenses				\$312
Total Estimated Cost-Cultural Resources				\$17,465

Mary L. Maniery

 Mary L. Maniery
 President, PAR Environmental Services, Inc.

11.16.23

 Date

TriDam Monitoring and Reporting
 Task IV. OPTIONAL Evaluation Task (per site)
 Prepared for Tri-Dam Project
 11/16/2023 (130-23-49)

Task/Personnel	Function	Rate/hr.	Hours	Total
Research/Prefield Prep/ARPA Permit				
M. L.. Maniery	<i>Principal</i>	\$195.00	4	\$780
AE Maniery	<i>PI</i>	\$150.00	16	\$2,400
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	8	\$1,120
K. Alex	<i>GIS/Graphics</i>	\$120.00	4	\$480
Total				\$4,780
Field (cost based on medium sized site)				
AE Maniery	<i>PI</i>	\$150.00	20	\$3,000
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	20	\$2,800
TBD	<i>Arch Tech</i>	\$90.00	20	\$1,800
TBD	<i>Arch Tech</i>	\$80.00	20	\$1,600
Total				\$9,200
Analysis				
A. E.. Maniery	<i>PI</i>	\$150.00	2	\$300
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	8	\$1,120
TBD	<i>Arch Tech</i>	\$90.00	8	\$720
Total				\$2,140
Report				
A.E.Maniery	<i>PI</i>	\$150.00	64	\$9,600
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	24	\$3,360
TBD	<i>Associate Arch</i>	\$90.00	8	\$720
K. Alex	<i>GIS/Graphics</i>	\$120.00	10	\$1,200
Total				\$14,880
TOTAL LABOR				\$31,000
Expenses				
Mileage		\$0.625	700	\$438
Hotel		\$175.00	4	\$700
Per Diem		\$59.00	8	\$472
Metal Detection Fee		\$30.00	1	\$30
Duplication		\$0.25	200	\$50
Trimble Fee		\$55.00	2	\$150
Tribal Monitor (IF PRECONTACT SITE AND REQUESTED)		\$150.00	20	\$3,000
Analysis (placeholder estimate, may be more or less)				\$5,000
Total				\$9,840
Fee on Expenses				\$984
Total Estimated Cost-Cultural Resources				\$41,823

Mary L. Maniery

 Mary L. Maniery
 President, PAR Environmental Services, Inc.

11.16.23

 Date

TriDam Monitoring and Reporting
 Task IV. OPTIONAL Evaluation Task (per site)
 Prepared for Tri-Dam Project
 11/16/2023 (130-23-49)

Task/Personnel	Function	Rate/hr.	Hours	Total
Research/Prefield Prep/ARPA Permit				
M. L.. Maniery	<i>Principal</i>	\$195.00	6	\$1,170
AE Maniery	<i>PI</i>	\$150.00	20	\$3,000
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	12	\$1,680
K. Alex	<i>GIS/Graphics</i>	\$120.00	6	\$720
Total				\$6,570
Field (cost based on large sized site)				
AE Maniery	<i>PI</i>	\$150.00	40	\$6,000
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	40	\$5,600
TBD	<i>Arch Tech</i>	\$90.00	40	\$3,600
TBD	<i>Arch Tech</i>	\$80.00	40	\$3,200
Total				\$18,400
Analysis				
A. E.. Maniery	<i>PI</i>	\$150.00	8	\$1,200
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	24	\$3,360
TBD	<i>Arch Tech</i>	\$90.00	16	\$1,440
Total				\$6,000
Report				
A.E.Maniery	<i>PI</i>	\$150.00	64	\$9,600
D. Malarchik	<i>Sr. Bioarchaeologist</i>	\$140.00	40	\$5,600
TBD	<i>Associate Arch</i>	\$90.00	10	\$900
K. Alex	<i>GIS/Graphics</i>	\$120.00	12	\$1,440
Total				\$17,540
TOTAL LABOR				\$48,510
Expenses				
Mileage		\$0.625	1000	\$625
Hotel		\$175.00	12	\$2,100
Per Diem		\$59.00	40	\$2,360
Metal Detection Fee		\$30.00	5	\$150
Duplication		\$0.25	400	\$100
Trimble Fee		\$55.00	5	\$150
Tribal Monitor (IF PRECONTACT SITE AND REQUESTED)		\$150.00	40	\$6,000
Analysis (placeholder estimate, may be more or less)				\$5,000
Total				\$16,485
Fee on Expenses				\$1,649
Total Estimated Cost-Cultural Resources				\$66,644

Mary L. Maniery

 Mary L. Maniery
 President, PAR Environmental Services, Inc.

11.16.23

 Date

Andrea E. Maniery, M.A., RPA

Senior Archaeologist/Principal Investigator

Since joining the PAR team, Ms. Maniery has led intensive surveys, test excavations, and data recovery projects for precontact and historical sites in California, served at all stages of precontact and historic archaeology, organized monitoring projects, and conducted coordination with Native American Tribes. Over the past five years she has served as a PAR Principal Investigator, including on a recent survey of over 400 miles in Trinity County. This survey resulted in recordation and management of over 500 sites. She has experience conducting surveys for precontact and historical archaeological resources and historic buildings, planning and completing testing and data recovery work at precontact sites in California, Nevada, and Utah, has completed several geoarchaeological studies. Ms. Maniery has prepared reports for compliance with Caltrans, Section 106, and CEQ. She has served as Field Director or PI since 2018 on Phase II and III studies reviewed by the USFS, BLM, and other agencies. She meets the Secretary of the Interior's qualification criteria as an archaeologist. Ms. Maniery is well-versed in project management, geoarchaeology, historic archaeology, precontact archaeology, groundstone, and lithic analysis.

Total Years of Experience: 12+

Education/Training:

M.A. Anthropology, University of Nevada, Reno, MA, 2015.

B.A. Anthropology, University of Nevada, Reno, MA, 2015

Certifications:

Registered Professional
Archaeologist ID#37427866

Previous Experience

Senior Archaeologist, PAR Environmental Services, Inc. (2015 – present) – Ms. Maniery joined PAR as an Associate Archaeologist II in May of 2015 and has been serving as a Principal Investigator since 2018. Her responsibilities have included conducting technical inventory, proposal writing, testing, Section 106 and CEQA compliance, data recovery, data analysis, project management, evaluation, and other studies for archaeological sites, historic structures, historic, and prehistoric resources. She has also prepared site records, technical reports, research designs, ARPA permits, Caltrans cultural resource-related reports such as HPSR and ASRs.

Project Highlights:

Trinity Public Utilities District Wildfire Risk Reduction, Reliability, and Asset Protection Project, Trinity County 2020. *Client: Aspen Environmental.* Co PI for a pedestrian survey of 234 miles of utility lines and 151 miles of roads, resulting in 585 sites recorded and evaluated for the purpose of Wildfire Risk Reduction in Trinity County CA. Includes both CEQA and Section 106 review by multiple agencies. 2020-2021. Lead Author on resulting report. Prior to entering the field, the team completed a complete review of cultural resources and historic properties within a one-mile radius of the project APE.

Hells Half Acre Access Road Re-Evaluation and Data Recovery, Stanislaus National Forest, 2019-2022. *Client: Tri-Dam Project.* This project took place over two stages with two separate reports, the first to assess adverse effects to a site on USFS-managed lands and reevaluate it (in compliance with Section 106), and the second stage was to conduct data recovery work in compliance with Section 106 of the NRHP. Ms. Maniery was field director for the re-evaluation of the historic logging camp in Tuolumne County, CA. The work consisted of shovel testing and hand excavation, historic artifact analysis, reporting, and mapping. Ms. Maniery was lead author on this report. Phase III Investigations at three historical sites for the Hells

Half Acre Access Road Project, Stanislaus National Forest, Tuolumne Co, CA. Ms. Maniery led field cataloging of artifacts, assisted in report writing, and prepared a National Register of Historic Places Evaluation for the site (a logging work camp on the larger Sugar Pine Railway system). Stanislaus National Forest approved all work.

NextEra Energy Solar Farm Data Recovery Project, Lassen County, CA, 2020-2021. *Client: Next Era Energy and Lassen Municipal Utility District.* Performed a Phase III Cultural Resource Data Recovery Project at a large precontact site in rural Lassen County, CA. PI responsible for planning and implementing Phase III excavation at a large prehistoric site on an extant shore of Honey Lake. The project included Native American consultation, fieldwork and field directing, data analysis, execution of a research design, laboratory work, and curation. 2021. Lead Author on resulting report.

LMUD-Skedaddle Interconnection Project, 2018-2020. *Client: Lassen Municipal Utilities District (LMUD).* PI responsible for preparing Phase I and Phase II work at two sites along LMUD's transmission line corridor. Project included survey and inventory of cultural resources, Native American Consultation, evaluation of sites identified as potentially eligible or of concern to the tribes, data analysis, and laboratory analysis. Evaluation occurred 2020, survey in 2018. Lead author on both resulting reports.

Angels Camp Pedestrian Bike Trail, 2016-2023. *Client: Dewberry, Inc.* PI for a Caltrans project involving the placement of a pedestrian walkway and bike trail along Angels Camp. Included preparation of an Archaeological Survey Report, Historic Properties Survey Report, Historical Resources Evaluation Report, a Finding of Effect, and an Environmentally Sensitive Action Plan. Field direction, project planning and management, reporting. All work met Section 106 compliance.

Selected Presentations and Publications:

2021 Class III Cultural Resources Inventory and Evaluation Report for the Wildfire Risk Reduction, Reliability, and Asset Protection (WRAP) Project, Trinity County, CA. Prepared for Trinity PUD, Weaverville, CA. (lead author)

2015 Pharo Village, Alluvial Geochronology, Climate, and Implications for Fremont Site Occupation and Abandonment. Master's Thesis, University of Nevada, Reno.

2020 Prehistoric Artifacts. In Archaeological Investigations: Yreka's Chinese Community. Publications in Cultural Heritage Number 36. California Department of Parks and Recreation Cultural Resources Division.

2020 California Register of Historical Resources Evaluation of CA-LAS-1759/H and CA-LAS-5661 for the Lassen Municipal Utility District Skedaddle Interconnection Project, Lassen County, CA. (author)

2020 Phase II Investigations at Three Historical Sites for the Hells Half Acre Access Road Project, Stanislaus National Forest, Tuolumne Co, CA. Prepared for Tri Dam, Strawberry, CA. (lead author)

Phase III Data Recovery at the Wendel Site, HL Solar Project, Lassen County, California (2015 & 2018). Prepared for HL Power, NextEra Energy, and LMUD. (author)

2017 National Register of Historic Places Evaluations of Sites FS-05-11-53-652 and FS-05-11-53-335 on the Colgate-Challenge Transmission Line Yuba County, CA (author)

Ms. Maniery has presented papers and posters at the Society of California Archaeology, Nevada Archaeology Association, and Society of American Archaeology meetings.



December 12, 2023

Justin Calbert
Interim License Compliance
Tri-Dam Project/Tri-Dam Power Authority
P.O. Box 1158
Strawberry, CA 95364

Re: Annual Site Conditions Assessment Monitoring for the Tri-Dam Project, Calaveras and Tuolumne Counties, California.

Dear Justin:

The following serves as a Scope of Work and Cost Estimate to conduct annual site conditions assessment monitoring for the Tri-Dam Project in Tuolumne County, California.

PROJECT UNDERSTANDING

The Tri-Dam Project (hereafter “Tri-Dam” or Licensee), a partnership between the Oakdale Irrigation District and South San Joaquin Irrigation District, operates two hydroelectric projects on the Stanislaus River in California: Beardsley/Donnells Project (Federal Energy Regulatory Commission [FERC] No. 2005) and Tulloch Project (FERC No. 2067). During the FERC relicensing process for the continued operation and maintenance of the Beardsley/Donnells and Tulloch Projects, Tri-Dam was required to prepare a Historic Property Management Plan (HPMP) for each project.^{1,2}

Beardsley/Donnells Project

The Beardsley/Donnells Project is situated on the Middle Fork of the Stanislaus River; the majority of the FERC boundary (or Area of Potential Effect [APE]) is situated on lands managed by the United States Forest Service (USFS) Stanislaus National Forest (STF). Recreational use and erosion may be damaging sites located within the APE; thus, Tri-Dam, in accordance with the HPMP, has established a management program for known cultural resources within the FERC boundary that includes either “periodic” or “conditional” monitoring. Periodic monitoring is conducted at regular intervals (annually for three years), while conditional monitoring applies to those sites inundated by Beardsley Reservoir that may become accessible during years of drought. Sites may be added (i.e., newly identified) or removed from the list of monitored sites as conditions and the HPMP allow. If, after three years the condition of a site remains stable, periodic monitoring will occur once every five years

¹ Flint, Sandra S., and Randy Baloian (2004a). *Final Historic Properties Management Plan for the Beardsley/Donnells Project in Tuolumne County, California (FERC No. 2005)*. Prepared by Applied EarthWorks, Inc., Fresno, California. Submitted to Devin Tarbell & Associates, Inc., Sacramento, California, and Tri-Dam Project, Pinecrest, California.

² Flint, Sandra S., and Randy Baloian (2004b). *Final Historic Properties Management Plan for the Tulloch Project in Tuolumne County, California (FERC No. 2067)*. Prepared by Applied EarthWorks, Inc., Fresno, California. Submitted to Devin Tarbell & Associates, Inc., Sacramento, California, and Tri-Dam Project, Pinecrest, California.

thereafter or until that site is removed from the monitoring list; or additional mitigation measures may be required if the site continues to degrade.

As of 2022, nine resources are located in the Beardsley/Donnells Project APE,³ and are listed below in Table 1.

Table 1. Beardsley/Donnells Project Resources.⁴

TRINOMIAL (CA-TUO-)/ (USFS No. [FS 05-16-53-])	SITE DESCRIPTION	PREVIOUS MONITORING	CONDITION	UPCOMING MONITORING	NATIONAL REGISTER ELIGIBILITY
1381/(296)	Habitation site, milling features, lithics, midden	2021, 2022	Compromised (2004) Fair (2020)	2027	Eligible
<i>1451/(076)</i>	Milling features	Unknown	Unknown (2020, 2021)	2024	Unevaluated
<i>1452/(109)</i>	Milling features	Unknown	Unknown (2020, 2021)	2024	Unevaluated
<i>1453/(110)</i>	Milling features	Unknown	Unknown (2020, 2021)	2024	Unevaluated
<i>1454H/(111)</i>	Beardsley Flat Logging Camp	Unknown	Unknown (2020, 2021)	2024	Unevaluated
1456H/(281) Segments 3155A, B	Railroad Grade	2019 (Segments A and H only)		2024?	A, B Eligible as contributing elements
4451/(756)	Milling features	2019	Compromised, Good (2004); Fair (2020)	2024?	Unresolved
4452H/(755)	Relocated Beardsley Flat Logging Camp	2019		2024?	Unevaluated; Ineligible
<i>5574H/(735)</i>	Rock pile and Pipe	2013, 2021, 2022 (inundated)	Unknown (2020)	2023	Unevaluated

Notes: National Register – National Register of Historic Places; **Bold Text** – Periodic Monitoring; *Italicized Text* – Conditional Monitoring.

Tulloch

The Tulloch Project is situated on the western slope of the Central Sierra Nevada and lies mostly within private lands in Tuolumne and Calaveras Counties. A small portion of the project is situated on lands managed by the United States Bureau of Reclamation (Reclamation).

Similar to the Beardsley/Donnells Project, Tri-Dam, per the HPMP, has established periodic and conditional monitoring to assess damage caused by fluctuating reservoir levels or other project-related

³ Hayworth, Kimberly, and Andrea E. Maniery (2022). *2022 Monitoring Report for the Beardsley-Donnells Hydroelectric Project Historic Properties Management Plan Implementation, Tuolumne County, California*. PAR Environmental Services, Inc., Sacramento, California. Submitted to Tri-Dam Project, Strawberry, California.

⁴ Table provided by Tri-Dam (Justin Calbert) via email, December 6, 2023.

effects. As of 2022, 10 of the original 14 sites located within the APE require monitoring in accordance with the HPMP,⁵ and are listed below in Table 2.

Table 2. Tulloch Project Resources.⁶

TRINOMIAL (CA-)	DESCRIPTION	PREVIOUS MONITORING	CONDITION	UPCOMING MONITORING	ELIGIBILITY
CAL-1877	Lithics	2013, 2014, 2015, 2021	Fair (2015)	2026	Unevaluated; Potentially Eligible (Flint and Baloian 2004)
CAL-1878	Village site	2021	Fair (2018)	2026	Unevaluated; Eligible (2004)
CAL-1883	Lithics	Not relocated in 2013, 2014, 2015, 2018, 2021	Unknown	2026	Unevaluated; Potentially Eligible (2004, 2018)
CAL-1886	Milling, lithics, historic ceramics	2015, 2021	Poor (2015)	2026	Unevaluated; Potentially Eligible (2004)
<i>TUO-4458</i>	Milling, lithics	2022	Fair (2015)	2023	Unevaluated; Potentially Eligible (2004)
CAL-409H	Flume, ditch	2018	Good (2018)	2023	Eligible as contributing element to historic mining district
CAL-1884H	Prospect pits, stone/earth structure, refuse	2018	Fair (2018)	2023	Unevaluated; Potentially Eligible (2004)
TUO-429H	Prospect pits, tailings, stone wall	2018	Fair (2018)	2023	Eligible as contributing element to historic mining district
TUO-1416	Milling, lithics	2018	Fair (2018)	2023	Unevaluated; Potentially Eligible (2004)
TUO-4459H	Ditch	2018	Poor (2018)	2023	Unevaluated; Potentially NOT Eligible (2004)

Notes: **Bold Text** – Periodic Monitoring; *Italicized Text* – Conditional Monitoring; Regular Text – Periodic Monitoring (every five years) as site has remained stable.

⁵ Maniery, Andrea E. (2022). *2022 Monitoring Report for the Tulloch Hydroelectric Project Historic Properties Management Plan Implementation, Calaveras and Tuolumne Counties, California*. PAR Environmental Services, Inc., Sacramento, California. Submitted to Tri-Dam Project, Strawberry, California.

⁶ Table provided by Tri-Dam (Justin Calbert) via email, December 6, 2023.

SCOPE OF WORK

Far Western has conducted numerous FERC relicensing efforts as well as FERC facility HPMP implementation in the Sierra foothills; therefore, we are familiar with the process, Section 106 of the National Historic Preservation Act compliance aspects, working with the STF, Reclamation, and private landowners, as well the Native American tribes in Calaveras and Tuolumne Counties. Recently, Far Western prepared a detailed archaeological context and research design for Bedrock Milling features in California: *Bedrock Milling Features in California: Archaeological Context and Research Design*.⁷ We also maintain a wide range of specialty services and technical staff to support projects such as this, which involve infield lithic and historic-era artifact analysis, detailed documentation of Native American village and mining-related sites, and tribal coordination and meetings. As such, this scope reflects this depth of experience.

Far Western proposes the following tasks to complete conditions monitoring: (1) Initial Data Gathering; (2) Archaeological Monitoring; and (3) Annual Reporting. Additionally, Far Western has included time for Project Management, to keep all project tasks on schedule.

Project Management

The Far Western project manager will oversee quality control, scheduling, adherence to regulatory guidelines, costs, project administration, staff coordination, and billing. This task will also include client coordination and up to two meetings with Tri-Dam personnel to discuss project progress and to address any concerns that may occur during the contract. This scope does not include consultation with Native American individuals or organizations. However, Far Western, in collaboration with the lead agencies, can coordinate with tribal representatives should they be invited and/or request (in accordance with HPMP protocols) to participate in fieldwork activities.

Task 1: Initial Data Gathering

After receipt of a signed contract and notice to proceed, Far Western will coordinate with Tri-Dam to gather all pertinent cultural data, including:

- GIS data for the two APEs, all previous archaeological/cultural efforts as part HPMP implementation, including surveys and site boundaries;
- Digital or hard copies of previous reports, site records, site condition assessments, and correspondence with the agencies, as appropriate; and
- Any tribal cultural resources information relevant to the site monitoring and reporting will be made available in advance of fieldwork, as appropriate.

Task 2: Archaeological Monitoring

Monitoring methods for both project APEs will follow those described in the HPMP, including the preparation of California Department of Parks and Recreation (DPR) 523 forms and Site Condition Assessments (SCAs) forms that reference the prior SCAs prepared for each site to document specific changes to the resource and setting. Every effort will be made to visit sites during the fall. If effects to

⁷ Whitaker, Adrian, and Christopher Parker (2021). *Bedrock Milling Features in California: Archaeological Context and Research Design*. Far Western Anthropological Research Group, Inc., Davis, California. Submitted to California Department of Transportation, Sacramento, California.

sites are observed, Far Western will contact Tri-Dam immediately and discuss recommendations and next steps in accordance with the HPMP.

As appropriate, Far Western will coordinate with local Native American tribes to participate in monitoring efforts and/or to be kept apprised of Far Western's field and reporting efforts.

Task 3: Annual Reporting

Far Western will prepare SCA forms for all resources and will update DPR forms when there are changes to the site(s) condition, such as the presence/absence of artifacts and cultural features, direct and indirect impacts, and/or damage to the site, reservoir levels and fluctuations, and other environmental setting variations. DPRs will be prepared in accordance with STF protocols. These findings will be summarized and DPR/SCA forms will be appended to the Annual Report. Far Western assumes production of one report per FERC Project per monitoring year. The Draft report will include a description of all cultural resources tasks that took place within the reporting period on behalf of the Licensee. Tri-Dam will review the report and upon approval, Far Western will circulate the report to STF, tribes, the State Historic Preservation Office (SHPO), and Central California Information Center.

BUDGET

Far Western will undertake this contract for a price not to exceed \$161,122.00 (see enclosed cost estimate). This scope and cost estimate are valid for 90 days. If the Notice to Proceed is received after 90 days, Far Western will revise the budget to align with Far Western's current loaded billing rates and will provide updated prices for equipment/vehicle rentals, other direct costs, etc.

ASSUMPTIONS

Far Western has prepared this scope of work with the following assumptions:

- Loaded billing rates are valid until September 30, 2026. A cost-of-living increase of up to 4.0% will be applied annually on October 1st.
- Tri-Dam will provide all available cultural data on file; a separate records search from the Central California Information Center will not be needed.
- Does not include the recordation or evaluation of built environment resources.
- The draft reports will undergo one round of edits with Tri-Dam, tribes, and one round with SHPO.
- Far Western is not responsible for compensating any tribal representatives that may wish to participate in field efforts. If Tri-Dam would prefer Far Western to subcontract participating tribes, this can be accommodated under a budget modification.
- Draft and Final deliverables will be transmitted electronically via secure file transfer. A hard copy of the Final Report will be submitted to the Information Center.
- Writing sections for any environmental document other than the SCAs, DPRs, and annual monitoring reports is not included.
- Up to two project meetings are included; not to exceed two hours each.
- No additional identification efforts, evaluation or mitigation proposals, resource evaluation, or data recovery investigations are included in the attached cost estimate.

- Artifacts will not be collected; and will remain in their respective locations during in-field documentation and photography.
- Tri-Dam will address all access issues and acquire all permitting necessary to complete work on STF- and Reclamation-managed lands (e.g., Archaeological Resources Protection Act permit).

If you have any questions, please contact Project Manager/Principal Investigator Cassidy DeBaker (cassidy@farwestern.com; 415-250-1687), or me (melissaj@farwestern.com; 530-756-3941). Thank you for your consideration.

Sincerely,



Melissa Johnson
Project and Proposal Director
melissaj@farwestern.com

Enclosure: Cost Estimate



COST ESTIMATE SUMMARY

Project Title: Tri-Dam Project
Task: Annual Site Condition Assessments; Reporting

Client Name: Tri-Dam Power Authority
Contact: Justin Calbert

TASK	LABOR HOURS	LABOR COST	TRAVEL EXPENSES	OTHER DIRECT COSTS	SUBCONSULTANTS	SUBTOTAL
MANAGEMENT	199	\$ 28,769	\$ -	\$ -	\$ -	\$ 28,769
BACKGROUND	100	\$ 13,132	\$ -	\$ -	\$ -	\$ 13,132
FIELD	492	\$ 62,086	\$ 12,758	\$ 413	\$ -	\$ 75,256
REPORTING	353	\$ 43,305	\$ -	\$ 660	\$ -	\$ 43,965
GRAND TOTAL					\$	161,122



Contract Name: Standard 140/15
 Contract No.: 140_15

Date: December 12, 2023

Client Name: Tri-Dam Power Authority

Contact: Justin Calbert

Rates Valid for Period: 10/01/2023-09/30/2026

Services under this Contract Subject to Prevailing Wage: No
 Staffing Restrictions: None

Project Name Tri-Dam Project

Annual Site Condition Assessments; Reporting

<i>Regular Employees</i>				MANAGEMENT	BACKGROUND	FIELD	REPORTING	Total	
Title	Name	REG/OT	Rate	Hrs	Hrs	Hrs	Hrs	Hrs	Amount
Principal Investigator	DeBaker, Cassidy	REG	\$179.12	64	8	-	12	84	\$ 15,046
Principal Investigator	Pacheco Patrick, Melinda	REG	\$161.21	56	16	-	8	80	\$ 12,897
Geoarchaeologist	Kaijankoski, Phil	REG	\$179.12	-	4	-	-	4	\$ 716
GIS Supervisor	DeArmond, Shannon	REG	\$179.12	-	6	-	6	12	\$ 2,149
GIS Senior Analyst	Karthauser, Chelsea	REG	\$107.47	-	32	-	36	68	\$ 7,308
Senior Archaeologist	Furlong, Julia	REG	\$144.02	-	16	252	120	388	\$ 55,880
Senior Archaeologist	Osterlye, Montserrat	REG	\$107.47	-	-	240	60	300	\$ 32,241
Staff Archaeologist	Breuer, Maggie	REG	\$92.54	-	-	-	16	16	\$ 1,481
Senior Archaeologist	Colligan, Kaely	REG	\$107.47	-	6	-	-	6	\$ 645
Data Analyst	Gonzalez Aguilera, Ariadna	REG	\$78.36	-	12	-	-	12	\$ 940
Senior Archaeologist	Davis, Kathy	REG	\$107.47	-	-	-	16	16	\$ 1,720
Production Director	Pardee, Michael	REG	\$119.12	-	-	-	15	15	\$ 1,787
Asst. Production Director	Sterling, Elizabeth	REG	\$103.00	-	-	-	32	32	\$ 3,296
Production Specialist	Montgomery, Kathleen	REG	\$90.91	-	-	-	32	32	\$ 2,909
Safety Coordinator	St.Clair, Ozlem	REG	\$109.71	3	-	-	-	3	\$ 329
Operations Supervisor	Tanner, Ashley	REG	\$100.30	6	-	-	-	6	\$ 602
Logistics Coordinator	Townsend, Valarie	REG	\$94.03	6	-	-	-	6	\$ 564
Asst. Project Manager	Harder, Brooke	REG	\$101.49	16	-	-	-	16	\$ 1,624
Project Accountant	Chavez, Monika	REG	\$116.42	32	-	-	-	32	\$ 3,725
Project Accountant	Jhutti, Sukhraj	REG	\$89.56	16	-	-	-	16	\$ 1,433
TOTAL LABOR				\$28,769	\$13,132	\$62,086	\$43,305	\$	147,292





Contract Name: Standard 140/15
 Contract No.: 140_15

Date: December 12, 2023

Client Name: Tri-Dam Power Authority

Contact: Justin Calbert

Rates Valid for Period: 10/01/2023-09/30/2026

Services under this Contract Subject to Prevailing Wage: No
 Staffing Restrictions: None

Project Name Tri-Dam Project

Annual Site Condition Assessments; Reporting

<u>Travel Expenses</u>		<u>County</u>		MANAGEMENT	BACKGROUND	FIELD	REPORTING	Total
<u>Unit Cost Travel</u>	<u>Unit</u>	<u>Unit Rate</u>		<u>Qty</u>	<u>Qty</u>	<u>Qty</u>	<u>Qty</u>	
Per Diem (Motel)	GSA Rate -- CA: Standard	Night	\$107.00	-	-	54	-	\$ 5,778
Meals/Incidentals	GSA Rate -- CA: Standard	Day	\$59.00	-	-	60	-	\$ 3,540
Vehicle Rental (Week)		Week	\$500.00	-	-	3	-	\$ 1,500
Travel (Unit Costs) Subtotal				\$0	\$0	\$10,818	\$0	\$ 10,818
<u>At Cost Travel</u>				<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>	
Gasoline		At Cost	At Cost	\$0	\$0	\$780	\$0	\$ 780
Travel (At Cost) Subtotal				\$0	\$0	\$780	\$0	\$ 780
SUBTOTAL TRAVEL EXPENSES				\$0	\$0	\$11,598	\$0	\$ 11,598
FEE ON TRAVEL EXPENSES			10%	\$0	\$0	\$1,160	\$0	\$ 1,160
TOTAL TRAVEL EXPENSES				\$0	\$0	\$12,758	\$0	\$ 12,758

<u>Other Direct Costs</u>				MANAGEMENT	BACKGROUND	FIELD	REPORTING	Total
<u>At Cost ODCs</u>				<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>	
Communication	At Cost	At Cost	\$0	\$0	\$0	\$300	\$0	\$ 300
Reproduction	At Cost	At Cost	\$0	\$0	\$75	\$300	\$0	\$ 375
Supplies	At Cost	At Cost	\$0	\$0	\$300	\$0	\$0	\$ 300
ODCs (At Cost) Subtotal				\$0	\$0	\$375	\$600	\$ 975
SUBTOTAL OTHER DIRECT COSTS				\$0	\$0	\$375	\$600	\$ 975
FEE ON DIRECT COSTS			10%	\$0	\$0	\$38	\$60	\$ 98
TOTAL OTHER DIRECT COSTS				\$0	\$0	\$413	\$660	\$ 1,073

GRAND TOTAL				\$28,769	\$13,132	\$75,256	\$43,965	\$ 161,122
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BOARD AGENDA REPORT

Date: 12/21/2023
Staff: Summer Nicotero

SUBJECT: Detailed Spill Gate Inspection

RECOMMENDED ACTION: Approve the contractor bid for a detailed spill gate inspection

BACKGROUND AND/OR HISTORY:

The Folsom spill gate failure in 1995 highlighted the potential risks associated with aging dam infrastructure and underscored the importance of adhering to FERC guidelines. This unfortunate incident triggered a reassessment of dam safety protocols nationwide, prompting a closer look at dams classified under Category 1 by FERC. Donnell, Beardsley, and Tulloch Dams fall within this category, necessitating rigorous and periodic inspections to ensure their structural integrity and the safety of downstream communities.

To address these concerns and uphold the highest standards of dam safety, we have solicited competitive bids for the 10-year detailed gate inspections, as required by FERC. The selected contractor will conduct a thorough examination of the spill gates, assessing structural integrity, mechanical components, and electrical systems. The inspection will also include a detailed report outlining any identified issues, along with recommended actions to ensure compliance with FERC guidelines and enhance overall dam safety.

FISCAL IMPACT: \$105,000 Included in 2024 budget

ATTACHMENTS:

McMillen Tainter Gate Inspection Proposal	\$102,958
Gannett Fleming Tainter Gate Inspection Proposal	\$117,915

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

December 7, 2023

Tri-Dam Project
Attn: Summer Nicotero
31885 Old Strawberry Road
Strawberry, CA 95375

RE: Radial Gate Inspections at Tulloch Dam: Approach, Budget, and Qualifications.

Because our business is focused on the water resources industry, McMillen is intimately familiar with various gate types and uses. We offer a team that has designed, inspected, or installed 300+ gates. With McMillen, Tri-Dam Project (Tri-Dam) will receive:

- Unmatched radial gate experience: Proposed project manager, Gavin Smith has worked on the analysis or design for 160+ radial gates. He has dedicated his career to the inspection and rehab of gates at existing hydroelectric facilities. Analysis has included trunnion friction and sensitivity analysis in addition to troubleshooting some of the most technically challenging issues regarding radial gates.
- Familiarity with FERC Chapter 14, Appendix L, Detailed Radial Gate Inspection Reports requirements and California regulations: McMillen, Inc. recently completed two very similar inspections for Merced Irrigation District in California and Lewis County PUD in Washington.
- Previous dam safety work at Tulloch Dam: Rick Scott's prior involvement in the Part 12D dam safety report equips him with a unique perspective, allowing us to identify potential issues, propose effective solutions, and ensure the continued safety and reliability.
- A SPRAT-certified team specializing in rope and access inspection services: McMillen has worked on over 15 projects with our proposed ropes consultant, Consor Engineers, LLC. Consor will bring their industrial rope access and fall protection knowledge to the Tulloch project to inspect the seven primary gates and one skimmer gate efficiently and safely.

If you have any questions or need any additional information, please do not hesitate to contact Gavin Smith, directly at (971) 544-8936, or gsmith@mcmillen.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Marcus Emmons".

Marcus Emmons
Director of Operations, VP

A handwritten signature in blue ink, appearing to read "Gavin Smith".

Gavin Smith, PE
Project Manager

PROJECT APPROACH

TULLOCH DAM OVERVIEW

Tulloch Dam is a concrete gravity dam located on the Stanislaus River in Calaveras and Tuolumne County, California, approximately 13 miles east of Oakdale, California. In addition to the dam and reservoir, the Tulloch Hydroelectric Project includes a spillway, two low-level outlets, two power conduits, and the Tulloch Powerhouses. The Project is licensed by the FERC as Project No. 2067-CA and is operated by the Tri-Dam Project as a joint venture between the Oakdale Irrigation District (OID) and South San Joaquin Irrigation District (SSJID).

The spillway is a gated concrete ogee overflow structure located near the left end of the dam. The spillway crest is Elev. 481.0 feet. It is controlled by seven 40-foot-wide by 30-foot-tall radial gates and one 14-foot-wide by 12-foot-tall skimmer gate. Eight piers separate the gates and support a bridge across the spillway that includes a raised gate hoist deck. Each gate has an electric hoist motor and wire rope hoists to raise and lower the gates.

OBJECTIVES

The main objectives of this project are as listed.

- Review existing documentation for the Tulloch spillway gates. Identify previous Gate Inspection Report (GIR) findings and recommendations. Review the previous structural analysis of record for material properties and assumptions.
- Using rope access techniques, perform hands-on detailed Tainter gate inspection for the seven Tainter gates, and skimmer gate, at Tulloch Dam.
- Produce a GIR for these gates in compliance with the FERC Engineering Guidelines Chapter 14 Appendix L.

PROJECT SCOPE

McMillen proposes to execute the project within the following tasks:

- Task 1 – Data Review & Project Management
- Task 2 – On-site Gate Inspection
- Task 3 – Gate Inspection Report (GIR)

Each task is described in detail in the following paragraphs.

Task 1 – Data Review & Project Management

This task involves the work effort required to develop and manage the project budget, schedule, product delivery and the plan the physical gate inspection. Monthly progress reports which will accompany our invoices, as well as any required schedule modifications.

To initiate the project, McMillen proposes to conduct an internal kickoff meeting with the inspection team and Tri-Dam personnel to review the approach and plan on-site coordination. This would be a virtual Teams or Zoom meeting. The inspection team present at the meeting would consist of the McMillen Project Manager (PM) and Engineer of Record (EOR) Gavin Smith and Consor Engineers, LLC (Consor) rope access lead Nick Clark. This initial meeting will also provide coordination on the following:

1. General operation of the gates.
2. Available information on the gates.
3. Purpose of the inspection and information to be collected.
4. Coordination of activities during the inspection. This includes all Lock out – Tag out procedures for the de-energization of the gates and hoist equipment.
5. Schedule review.

McMillen will prepare and distribute a summary of the meeting minutes including actions items, activities, and schedule.

To prepare for the inspection the PM and the rope access team will review drawings, prior inspection reports, testing and stability reports, and any maintenance records for the gates. The project manager and the rope access team will work with Tri-Dam to develop the access plan for the inspection. This will involve confirming anchor and access points, and procedures during the inspection.

Access to the gates is relatively straight forward since the gates are located off the main Tulloch Dam Road. Rope access techniques will be utilized by Consor to easily reach all areas of the gate and provide the detailed hands-on approach that FERC requires. The McMillen inspectors will be able to access the downstream portions of the gate by the lower access road and provide the Consor rope access technicians with directions on the critical areas for inspection per the inspection plan.

Task 2 – On-site Gate Inspection

This task describes the effort needed to perform the inspection. These activities are described in more detail below.

Travel to and from the Site

The gate inspection team anticipates one day of travel to the site and one day of travel from the site. It is expected that the team will spend three days performing the climbing and gate inspections and will be spending the night in the local city of Oakdale.

Daily Safety Meeting

Onsite daily safety meetings will be conducted each day prior to the start of inspection activities at the Tulloch Dam spillway deck. The Consor rope lead Nick Clark will lead all daily safety meetings in coordination and in accordance with all Tri-Dam on-site safety procedures.

Inspection Activities

The McMillen engineers and Consor rope team will both be present for the inspection.

The gate inspection activities task consists of the following main elements:

- **Structural Inspection-** Structural inspection of the front and backside of the steel gate members and connections will be via rope access techniques performed by the Consor climbing team. The ropes will be secured to tie off locations on the spillway deck. Activities during inspection include measurement, photographs and recording of observations.
- **Mechanical Inspections-** A visual and condition inspection of the trunnion's bearings, hoisting machinery and wire ropes will be performed by the inspection team. The gearboxes, greasing system, wire ropes and connections will be visually inspected for signs of distress, corrosion, and damage. McMillen understands that the Beardsley Dam radial gates have shown distress at the trunnion pins in the form of a missing keeper bar and spun pins. Due to the similarities between the Tulloch and Beardsley gates the inspection plan will include a special visual inspection of the trunnion pin and hub for any indication of similar distress.
- **Electrical Inspection-** The hoist wiring, control cabinets, relays and limits switches will be visually inspected for general overall condition.
- **Full Gate Travel -** The motor current will be monitored using a clamp-on style meter. This will be recorded during the gates hoisting and lowering test to check for any abnormal conditions indicating excessive friction or gate binding. This must be done after the climbing activities are completed and the gates are re-energized.

Organization and Preparation of Field Data

After inspection activities are complete, the rope access team will organize all field data into a clear and concise field inspection report. This report will be a primary input into the GIR.

Task 3 – Inspection Report

Gate Inspection Report Transmittal Letter

McMillen will prepare a GIR transmittal letter on behalf of Tri-Dam. The transmittal letter is essentially an Executive Summary and will contain the following key elements as recommended in the FERC Chapter 14 guidance.

- Summary of the key findings of the GIR;
- Summary of key findings of the previous GIR and any work (e.g., analysis, maintenance, or modifications) performed in the interim;
- A clear statement by the Chief Dam Safety Coordinator (CDSC) or if applicable, the Chief Dam Safety Engineer (CDSE) that they have reviewed the GIR, concur with its findings, or adequate justification and rationale for any 'non-concurrence';
- A list of recommendations for routine maintenance, investigation, or major remediation, as well as the CDSC's plan and schedule for addressing those items.

Gate Inspection Report (GIR)

McMillen will prepare a draft and final inspection report which will contain the following key topics as recommended in the FERC Chapter 14 guidance. These are as follows:

- Inspection Scope
- Review of Existing Documentation
- Inspection Findings
- Tainter Gate No. 1-7 Detailed Sections
- Skimmer Gate Detailed Section
- Recommendations
- Conclusions
- Appendices
- Appendix A: Inspection Team Resumes
- Appendix B: Status of Previous Recommendations

- Appendix C: Drawings and Schematics
- Appendix D: Inspection Photos (DVD only)
- Appendix E: Inspection Field Notes (DVD only)

Deliverables

Table 1 provides a list of deliverables for each task identified in the Scope of Work.

Table 1 – Project Deliverables

Task No.	Deliverables
1.0	<ul style="list-style-type: none"> • Monthly invoices and progress reports • Teleconference and meeting minute summaries • Written safety and inspection plan
2.0	<ul style="list-style-type: none"> • Summary of any key/critical findings
3.0	<ul style="list-style-type: none"> • Draft digital Transmittal Letter and GIR • Final digital and 4 hard copies of the Transmittal Letter and GIR (3 copies for FERC) Hard copies will include a DVD with all materials)

Assumptions

- The following assumptions were made in developing the SOW for the Project:
- The existing information on the as-built condition of the gates is accurate and complete.
- A representative from Tri-Dam will be available during the entire inspection to assist as necessary. This may require overtime.
- Tri-Dam is responsible for submitting any documentation to the FERC.
- Internal review as well as client review is accounted for and anticipated. We anticipate FERC review and have accounted for this in the budget but have not accounted for this in the schedule.

BUDGET

Table 2 summarizes the budget estimate per task of this Task Order.

Table 2. Project Budget

Task No.	Description	Budget
1.0	Task 1 – Data Review / Project Management	\$10,310
2.0	Task 2 – On-Site Gate Inspection	\$20,710
3.0	Task 3 – Gate Inspection Report (GIR)	\$18,770
	McMillen Total	\$49,790
	Sub-Consultant CONSOR Total	\$53,168
	TOTAL	\$102,958

SCHEDULE

START DATE

Upon Notice to Proceed.

TIME OF PERFORMANCE

Table 3 presents the anticipated schedule for the Work. We understand the inspections are to be performed in January 2024. The actual inspection dates shown below can be adjusted as needed to fit Tri-Dam personnel availability.

Table 3. Project Schedule

Task	Start	Complete
Notice to Proceed	Dec-18-2023	
1.0 Data Review & Project Management	Dec-18-2023	Apr-15-2024
2.0 Gate Inspection	Jan-15-2024	Jan-18-2024
3.0 Reporting	Jan-18-2024	Apr-15-2024
3.1 Draft Report	Jan-18-2024	Mar-18-2024
3.2 Draft Report Client Review	Mar-18-2024	Mar-29-2024
3.3 Final Report	Mar-29-2024	Apr-15-2024

SPECIAL TERMS AND CONDITIONS

None, under terms of Master Services Contract.

TEAM QUALIFICATIONS

TEAM INTRODUCTION

An additional value we bring to Tulloch Dam radial gate inspection project is that our **PM and EOR, Gavin Smith** offers 16 years of experience performing condition assessment, field investigations, and/or structural analysis for 160+ radial gates. His experience designing radial gates provides Tri-Dam with an advantage. He understands the structural system and can quickly identify load paths and critical members on which FERC requests additional emphasis during the inspection. Gavin is a Registered Professional Engineer (PE) in California, has authored papers on radial gate retrofits, and performed the analysis, design, and engineering during construction for the rehabilitation of radial gates. Most of his projects focused on the analysis and design of retrofits due to increased trunnion friction and seismic loads. Using inspection results, Gavin has participated in multiple risk studies at USACE including elicitation for structural failure modes, analysis of radial gates for quantitative failure mode analysis, and Periodic Inspections and Periodic Assessments to determine operating conditions.

Our independent review team brings an average of nearly 30 years of experience. They will provide technical insights and advice on specific project-related matters to contribute to a vetted, quality report. **Mark Merklein will serve as Structural ITR, while Rick Scott will serve in a QA/QC capacity.** Mark has extensive experience in retrofitting and rehabilitation for concrete infrastructure and has served as the ITR, QA/QC technical advisor, and lead structural engineer on a multitude of radial gate projects, from alternatives analysis, inspections, to final design. Rick has performed FERC Part 12D reviews, most recently he was the Part 12D Co-Independent Consultant for Tri-Dam's Donnell, Beardsley, and Tulloch dams. With Rick's background and experience at Tulloch Dam, he will have the ability to provide an insightful and actionable review of the report.

We have supplemented our in-house expertise with trusted subconsultant with whom we have previous working relationships and/or are subject matter experts in their field. This will enable our team to capitalize on individual expertise and resources to expeditiously deliver a unique blend of work and best value for Tri-Dam. Our key subconsultant brings the right knowledge and resources to ensure a collective, highly technical team delivers this vital project.

Consor is a water and transportation infrastructure consulting firm offering planning, engineering design, structural assessment, and construction services. Over the last three decades, they have established an outstanding reputation in structural inspection, having performed over 65,000 structural inspections. Their inspection team has extensive experience conducting in-depth and fracture-critical inspections using industrial rope access on dams and bridges throughout the country. They have experience conducting gate inspections using industrial rope access for California Department of Water Resources, USACE, Georgia Power, Duke Energy, and PacifiCorp.

The Consor inspection team will consist of Society of Professional Rope Access Technicians (SPRAT), **Nick Clark, PE, SPRAT III; Tom Howell PE, SPRAT III; and Jacob Dahlgren, PE, SPRAT II.** They have experience conducting radial gate inspection and analysis for clients including California for the Department of Water Resources (DWR) and were part of the team that responded to the Oroville Dam Spillway failure in 2017.

Our team proposed in this submittal are committed to delivering a quality inspection and report to Tri-Dam as prescribed by the FERC guidelines. The following table provides their experience and qualifications.

Table 4. Project Team Qualifications



GAVIN SMITH, PE - Project Manager

EXPERIENCE	EDUCATION	REGISTRATIONS
16 years	BS, Civil Engineering	PE: CA #93005

Gavin is knowledgeable in inspection, engineering evaluations and analysis, design, installation/ construction, commissioning, operation, and maintenance for dams and supporting infrastructure types and sizes, including concrete spillway chutes and spillway gates. He understands the structural system and can quickly identify load paths and critical members on which FERC requests additional emphasis during the inspection. Most of his rehabilitation projects have focused on the analysis and design of retrofits due to increased trunnion friction and seismic loads. He is also rope trained (not SPRAT certified) for radial gate inspections.

Relevant Experience:

Lewis County PUD; Cowlitz Falls Dam Appendix L Physical Inspection, WA | Structural Engineer/Inspector. Gavin conducted the inspection of four radial gates combining rope inspection techniques. He also led a trunnion friction analysis and updated seismic evaluation.

Merced Irrigation District; Merced Falls Chapter 14 Appendix L Gate Inspections, CA | Structural Engineer/Inspector. The analysis was completed in compliance with Chapter 14 Appendix L guidance, USACE ETL 1110-2-584 Appendix D. Work included structural stability analyses of both the concrete gravity structure and the steel radial gates as well as a hands-on physical inspection of the radial gates using fall protection harnesses and lifelines. Gavin was responsible for the inspection, reporting, and analysis of the three existing radial gates.

USACE; Willamette Valley Tainter Gate Rehabilitation Program, OR | Engineer-of-Record* Gavin was the Engineer-of-Record for the Radial Gate Rehabilitation at Fall Creek Dam, Lookout Point Dam, Green Peter Dam, Detroit Dam, Hills Creek Dam, Blue River Dam, and Cougar Dam. Gavin performed the analysis and designed the rehabilitation taking into consideration trunnion friction and increased machinery loadings. He also supported the installation of new radial gates and any associated construction.

**work completed prior to McMillen*



MARK MERKLEIN, PE – ITR Structural

EXPERIENCE

30 years

EDUCATION

MS, Civil Engineering

REGISTRATIONS

PE: AK, CO, ID, MT, NV, OR, TX, WA

Mark brings experience with the analysis of radial gates and developing comprehensive FERC Chapter 14, Appendix L, Detailed Radial Gate Inspection Reports (GIR). Most recently, he served as the Structural Lead for the Cowlitz Falls Radial Gates. He also has provided Independent Technical Reviews (ITR), inspection, analysis, and/or retrofit designs for several hydraulic steel structures including Idaho Power’s Reject Vertical Gate and Drop Gate projects, and Northwestern Energy’s Radial Gate Replacement project at the Morony Dam.

Relevant Experience:

Lewis County PUD; Cowlitz Falls Dam Appendix L Physical Inspection, WA | Lead Structural Engineer. Mark's team inspected four radial gates combining rope inspection techniques. A man-basket accessed the trunnion hubs to inspect per FERC requirements. He was responsible for all aspects of the Gate Inspection Report, which was prepared by meeting FERC compliance with Chapter 14, Appendix L, Detailed Radial Gates Inspection Reports.

Merced Irrigation District; Merced Hydroelectric On-Call MSA Engineering Services, CA | Structural QA/QC. Task orders have included FERC coordination and reports, inspections, recommendations, design, and construction support, a trash rake, generator systems, gate upgrades, runner/hoist alternatives, and spillway improvements. Mark provided a QA/QC review on all structural components on multiple task orders.

USACE Walla Walla; Dworshak Dam (400 MW) Regulating Outlet (RO) Refurbishment, ID | ITR. Mark reviewed the repair of cavitating concrete conduits located 300 feet underwater inside the dam.



RICK SCOTT, PE – QA/QC

EXPERIENCE

40 years

EDUCATION

MS, Geotechnical Engineering

REGISTRATIONS

PE: AK, CO, ID, MT, NV, OR, TX, WA

Rick is a Senior Managing Engineer bringing over 39 years of experience emphasizing dam safety and heavy civil, hydraulic, and geotechnical engineering. He has been involved with all phases—the assessment, design, construction, and operations/management of various dams (earthen, rockfill, and concrete) and other water-related structures. In addition to his inspections, he has managed the implementation of corrective actions for identified deficiencies and has also been responsible for safety and security. Rick also has provided oversight for safety programs on active power plant operations. Rick is also a FERC-approved Independent Consultant (IC) and has conducted on-site inspections and comprehensive reviews of earth, rock-filled, and concrete dams and executed over 300 dam safety projects.

Relevant Experience:

Tri-Dam Project; Donnells, Beardsley, & Tulloch Dams FERC Part 12D, CA | Part 12D Co-Independent Consultant (IC). Rick performed the Part 12D dam safety report, reviewed, and updated the Supporting Technical Information Document, and facilitated the PFMA. The review consists of reviewing the Supporting Technical Information and reviewing drawings and analyses.

Lewis County PUD; Cowlitz Falls Dam Hydro (70 MW) MSAs 2014-2026, WA | Dam Safety/FERC IC. Under a Master Services Agreement (MSA), McMillen has completed a wide variety of task orders at the Cowlitz Falls Dam, including the inspection of four radial gates. For the Dam Safety Support task order, Rick prepared FERC correspondence, reviewed operations and maintenance concerning dam safety, assisted in writing dam safety procedures, conducted periodic dam safety training, and supported dam safety drills and exercises. He also co-led the field inspection and co-facilitated the PFMA review for the FERC Part 12D task order.

Merced Irrigation District; Merced Hydroelectric On-Call MSA Engineering Services, CA | Dam Safety Engineer. Rick updated the STID document, completed study work, and completed inspections for the Part 12D report. He also assessed conditions and alternatives for a permanent repair to the Upstream Surface Investigation task order.

**NICK CLARK, PE, SPRAT III – Rope Access Team Lead**

EXPERIENCE	EDUCATION	REGISTRATIONS/CERTIFICATIONS
25 years	MS, Civil Engineer	PE: AK, NM, FL, ID, OR, MT, ND, NV, TX, UT, WA SPRAT Level III #080182

Nick is a bridge engineer with a geotechnical engineering background in bridge foundation design. He is the structural assessment lead for Oregon and SW Washington and has experience in geotechnical and bridge engineering; bridge and dam inspection; and construction inspection and management. Nick has performed engineering analysis and design; construction observation and inspection; field exploration and testing; and engineering data collection and analysis. His dam inspection experience includes routine and emergency inspection of radial gates.

Relevant Experience:

DWR; Oroville Dam Emergency Inspection, CA | Structural Inspector. With a previous employer, Nick was part of a team that provided emergency inspection of the spillway and subsurface conditions due to damage from undermining and water release at Oroville Dam.

DWR; Thermalito Diversion Dam Inspection, CA | Structural Inspector. With a previous employer, Nick was part of a team that inspected the 14-gate radial gates using industrial rope-access techniques.

USACE Portland District; Detroit Dam Radial Tainter Gate Analysis, OR | Structural Engineer. With a previous employer, Nick performed analysis of the radial

gates. The analysis consisted of finite element modeling and was based on a combination of existing plans and a recent gate inspection.

USACE Portland District; Detroit Dam, OR | Structural Inspector. With a previous employer, Nick was part of a team that inspected the 6-gate Detroit Dam radial gates using industrial rope-access techniques.



THOMAS HOWELL, PE, SE, SPRAT III – Ropes Inspector

EXPERIENCE	EDUCATION	REGISTRATIONS/CERTIFICATIONS
24 years	MS, Civil Engineering	PE: AK, MT, NV, NY, OR, PA, TX, WA SPRAT III #070588

Tom is a structural engineer with a background in design, detailing, and rating of bridge, tunnel, and dam structures. Additionally, he has extensive experience in bridge and dam inspection scheduling, reporting, and execution. His access technique experience includes industrial rope access, under bridge inspection vehicles, manlifts, bucket trucks, watercraft, and confined-space entry.

Relevant Experience:

DWR; Oroville Dam Emergency Inspection, CA | Structural Inspector. With a previous employer, Tom was part of a team that provided emergency inspection of the spillway and subsurface conditions due to damage from undermining and water release at Oroville Dam.

USACE Portland District; Willamette River Hydraulic Steel Structures, OR | Structural Engineer. With a previous employer, Tom was the structural engineer for the capacity analysis and retrofit design of various radial dam spillway gates for the USACE. The analysis included finite element modeling of complex steel structures and strengthening design development.

USACE Portland District; The Dalles And John Day Dam Inspections, OR | Structural Inspector. With a previous employer, Tom was a structure inspector for four radial gates at two USACE operated dams. The gates were accessed using rope access, and the project included inventory information gathering, NDT, and gate ratings.

JACOB DAHLGREN, PE, SPRAT II – Ropes Inspector

EXPERIENCE	EDUCATION	REGISTRATIONS/CERTIFICATIONS
8 years	BS Nuclear Engineering	PE: AZ, OR, WA SPRAT II #172164

Jacob has 8 years of experience in the inspection, analysis, design, and construction of electrical, mechanical, and structural systems for hydraulic structures and heavy movable infrastructure, including spillway gate hoists, navigation locks, gantry cranes, and various other hydraulic structures.

Relevant Experience

Placer County Water Agency; Interbay And Ralston Afterbay Upstream Inspections, CA | Inspector. With a previous employer, Jacob was part of the inspection team conducting rope access inspections of the upstream side of spillway



gates at Interbay Dam and Ralston Afterbay Dam. The inspected components included skin plates, seals, and hoist chains.

Pacific Gas & Electric; FERC PART 12 Inspections, CA | Mechanical Engineer/Inspector. With a previous employer, Jacob was part of a team selected by PG&E to provide spillway gate and hoist inspection services for FERC Part 12 compliance. Jacob served as a mechanical and structural inspector, performing machinery inspections and operational testing on gate hoists, as well as rope access structural inspections of steel gates and adjacent spillway structures.

Portland General Electric; Bull Run Dam No. 1 Spillway Gate Inspections, OR | Inspector. The spillway at Bull Run Dam No. 1 is regulated by three fixed-wheel vertical gates. With a previous firm, Jacob's team was selected by PGE to provide spillway gate inspection services for FERC Part 12 compliance. Jacob served as a rope access inspector, assisting with the inspection of the wheeled steel gates and adjacent spillway structures.

RELEVANT PROJECT EXPERIENCE

McMillen is extremely familiar with dams and gates at hydroelectric facilities including radial gate inspections, and specifically Appendix L of FERC’s Chapter 14 guidelines. We have worked on multiple radial gate projects where an up-close inspection of gate members resulted in significant findings related to a gates condition (incipient buckling of Tainter gate strut arms, cracked girder welds, damage from debris impacts, etc.) that shaped the path of a gate rehabilitation project.

Our team’s relevant experience performing gate and dam inspections with rope access is summarized in Table 5.

Table 5. Relevant Project Experience

Client and Project	Relevant Project Experience
<p>Merced Irrigation District, CA; Merced Falls Chapter 14 Appendix L Gate Inspections</p>	<p>McMillen performed a hands-on physical inspection of the three radial gates using fall protection harnesses and lifelines. The analysis was completed in compliance with Chapter 14 Appendix L guidance, USACE ETL 1110-2-584 Appendix D. The Merced radial gates were analyzed for all six ETL 584 load cases, including increased trunnion friction due to single-sided hoisting, and recommendations were made for gate upgrades. Sensitivity analysis was performed for the gates’ structural members by performing FEM analysis for varying forebay pool levels, and varying friction coefficients, and determining which gate members were exceeding design strengths for each case. During the inspection, damaged members were discovered which were incorporated into the analysis. These members were located at places of high stress and large forces.</p>
<p>Lewis County PUD, WA; Cowlitz Falls Dam Appendix L Physical Inspection</p>	<p>This project was in response to the FERC Tainter Gate Initiative implemented in 1998 and the 2001 revision requiring each dam with a Category 1 radial gate to submit a detailed Gate Inspection Report. McMillen provided a physical inspection of the four radial gates at this 140-foot-high x 700-foot-long concrete gravity dam, via a man-basket. The trunnion hubs were accessed by a man-basket to inspect per FERC requirements. Our team consisted of a safety rope and anchor master for each rappel point. Using fall protection harnesses and lifelines, the SPRAT inspectors assessed the gates. In addition, the team employed SPRAT level rope access techniques (160 ft rappels) to assess the rock slope stability at the right abutment of the dam. Based on their findings, the team prepared the Gate Inspection Report in accordance with FERC Chapter 14, Appendix L, Detailed Radial Gates Inspection Reports.</p>
<p>Department of Natural Resources, CA; Thermalito Forebay Dam</p>	<p>With a previous employer, the Consor team was contracted to perform an inspection of radial gates at Thermalito Dam. This dam is part of the larger Oroville-Thermalito Complex in northern California and was opened in 1968. The in-depth inspection focused on the 14 steel, tainter gates and utilized industrial rope access techniques according to SPRAT standards to provide hands-on access. Attention was given to the girders, struts, purlins, and trunnions as well as bracing and skin plates. Due to extreme heat at the time of the inspection, additional heat-related precautions</p>

Client and Project	Relevant Project Experience
	including periodic body temperature testing and cooling tents were employed. The inspection was conducted in accordance with the FERC requirements for dam inspection.
USACE Portland, OR; Detroit Dam	With a previous employer, the Consor team was contracted to perform an inspection of the radial gates at Detroit Dam. The dam is located on the Santiam River in the Cascade Range near Detroit, OR and forms Detroit Lake. Opened in 1953, the 450' high dam includes six steel radial gates. In-depth, arm's-reach inspection was conducted on each gate utilizing industrial rope access according to SPRAT standards. Attention was given to the girders, struts, purlins, and trunnions as well as bracing and skin plates. The inspection was conducted in accordance with the FERC requirements for dam inspection.



December 7, 2023

Ms. Summer Nicotero
Tri-Dam Project
31885 Old Strawberry Rd,
Strawberry, CA 95375

RE: FERC Category I Radial Tainter Gate Inspections Proposal
Tulloch Dam / Beardsley Dam / Donnell's Dam

Dear Ms. Nicotero:

Per your request, we are pleased to present this proposed scope of work and cost estimate for performing the FERC Category I Radial Tainter Gate Inspections in 2024 for the Tulloch Dam Facility, Beardsley Dam Facility and Donnell's Dam Facility.

PROJECT UNDERSTANDING

Tri-Dam Project (Tri-Dam) has requested Gannett Fleming prepare a proposal for a 10-year Radial Gate Inspection for the three (3) facilities composing the Tri-Dam Project. The facilities are described below based on information gathered from email discussions with Tri-Dam as well as information obtained from Tri-Dam's website as of December 2023.

The Tri-Dam Project is a joint venture exhibited between the Oakdale Irrigation District and the South San Joaquin Irrigation District. As part of the partnership, they jointly operate and maintain the dams, tunnels, penstocks, powerhouses, communication systems and general offices that make up the Tulloch, Beardsley and Donnell's dam facilities. Originally the facilities were developed for water storage, and they continue to provide storage for irrigation water service to nearby territories. The hydroelectric generation facilities exhibited by the project was a result of the relatively low historical cost to add these features as part of the water storage facilities.

The Tulloch Reservoir, which spans the Stanislaus River, is located in Tuolumne County, near the town of Jamestown, California. The facility, constructed between 1955 and 1957, is composed primarily of a concrete gravity non-overflow section spanning from the right abutment to the gated spillway located adjacent to the left abutment. The gated spillway is composed of seven (7) overflow bays controlled by 40-foot-wide by 31-foot-tall radial gates. The spillway also has a 14-foot-wide by 12-foot-tall vertical lift "skimmer" gate meant to pass debris over the spillway.

The Beardsley Reservoir is located within a steep rock lined canyon along the Middle Fork of the Stanislaus River, approximately five miles downstream from Donnells Reservoir and seven miles from Highway 109 along Beardsley Road. The access road to the site is steep and winding, providing typical traffic speeds of less than 25 miles per hour. The spillway is operated by means of four (4), 40-foot-wide by 30-foot-tall radial gates and a single 14-foot-wide by 12-foot-tall vertical lift “skimmer” gate meant to pass debris over the spillway. The spillway gates for Beardsley Dam were installed from October of 1956 to February of 1957. The facility reached final construction completion in the Summer of 1957.

The Donnells Reservoir is located in a remote rocky canyon along the Middle Fork of the Stanislaus River, approximately five miles upstream from the Beardsley Reservoir. The facility is approximately seven miles from Highway 108 off Beardsley Road along 5N09X. The narrow and winding route provides typical driving speeds of less than 15 miles per hour. The facility is operated with use of five (5), 35-foot-wide by 19-foot-tall radial spillway gates. The gates are operated with use of a single trolley hoist which the facility refers to as a “Donkey”. The previous 10-year inspection, performed in the Fall of 2012, resulted in the assessment and repair of openings observed in the webs of the outside ribs corresponding to side roller locations. The facility was constructed between 1955 and 1957.

The sixteen (16) radial spillway crest gates exhibited across the three (3) facilities are understood to be Category 1 based on the Federal Energy Regulatory Commission (FERC). A Category 1 classification requires detailed inspections of the Tainter gates every 10 years to document their reliability. This requirement came into effect following the failure of Tainter Gate No. 3 at the Folsom Dam Hydroelectric Project near Sacramento, California on July 17, 1995. Since then, the FERC established a nationwide initiative to fully inspect, investigate and evaluate the structural integrity of Category 1 Tainter gates with detailed inspections. This initiative is further detailed in the FERC’s issuance of Appendix L (May 2017), which is part of Chapter 14 of the Engineering Guidelines.

SCOPE OF WORK

To meet the intent of the project background information described above, the following scope items are currently proposed:

- Task 1 – Inspection Preparation
 - Kickoff Meeting
 - Background Information Review
 - Health and Safety Plan (HASP)

- Task 2 – Gate Inspections
- Task 3 – Gate Inspection Reports (GIR)
- Task 4 – Project Management

Task 1 – Inspection Preparation

After receiving notice to proceed, Gannett Fleming will schedule and facilitate a kick-off meeting amongst the key project team members within Tri-Dam and Gannett Fleming. The intent of the meeting will be to confirm project scope, project schedule and responsibilities. The meeting will also provide an opportunity for Gannett Fleming to request additional project reference information if necessary.

Prior to performing the inspections, Gannett Fleming will complete a detailed review of the available reference material related to each of the gate structures. This information is expected to include previous gate analyses, licensee procedures, operational history, and the prior gate inspection reports. Based on the review of pertinent reference material, Gannett Fleming will assemble inspection forms that highlight each Tainter gate structural member configuration, a standardized member identification system and the structural members that have shown past signs of deficiencies, shown by analysis to be overstressed or critical to overall gate stability.

After completing the background information review, Gannett Fleming will develop a plan for each of the three (3) inspections that will address the goals of the inspection, safety, access and logistics. As part of the planning process, Gannett Fleming will develop an Inspection Work Plan for each facility which will include the following information:

- Inspection personnel and contact information,
- Forecasted weather,
- Estimated inspection schedule,
- Inspection equipment,
- Key team member responsibilities, and
- Check list for desired observations.

The work plan(s) will reference the project Health and Safety Plan (HASP) which will be developed as part of Task 1. In advance of each inspection, Gannett Fleming will prepare a HASP which will document procedures for inspection access, safety equipment, rescue support and local emergency services information.

Task one includes a pre-inspection coordination meeting (virtually), separate from the kickoff meeting, to review the inspection schedule, preparation activities, and support coordination.

Task 2 – Gate Inspection

As part of the field inspection(s), the condition of the observable structural members, skin plates, and trunnion assemblies will be inspected and documented. Special attention will be given to areas exhibiting corrosion, erosion, wear, bending, loose connections, etc. In addition, the physical dimensions of the structural members will be compared to member sizes reported in the design documents and structural analyses. We assume that all structural gate members can be measured using calipers and measuring tape. A photographic record of each gate will be obtained during the site visits, which will be incorporated into the Summary Report(s) completed as part of Task 3 described below.

Access to gate components is proposed to be completed using rope access techniques. Rope access techniques will allow a safe, simple, and complete inspection of the gate structures and appurtenances. No independent ladders are proposed to be used during the inspection and Gannett Fleming personnel will be responsible for identifying proper anchorage points to meet Occupational Safety and Health Administration (OSHA) standards.

Gannett Fleming's inspection team proposes to access and inspect the gate structures using a team of Gannett Fleming staff trained and certified in rope access techniques. Each of the Gannett Fleming staff members will be certified by the Society of Professional Rope Access Technicians (SPRAT) as a Level 1 Rope Access Technician. The team provides experience in safely conducting vertical and near vertical inspections of a wide variety of structures, including a multitude of Tainter gate inspections in accordance with Chapter 14 Appendix L requirements.

Our access procedures are in substantial conformance with SPRAT, OSHA, the National Fire Protection Association (NFPA), and American National Standards Institute (ANSI) rope access and fall protection guidelines. The project-specific Health and Safety Plan (HASP) will be prepared in a manner to document the risk mitigation measures to be utilized at each of the sites.

Due to the use of rope access techniques combined with the isolated site access, Gannett Fleming proposes to perform the inspection under the oversight of a safety sub-consultant. The safety sub-consultant will be certified by the Society of Professional Rope Access Technicians as Level 3 Rope Access Technician. The safety sub-consultant will help manage rope access activities. This will allow Gannett Fleming to manage the potential risk of injury at a remote site by providing the ability for a rope access rescue and the application of emergency rescue in a moment's notice.

For safety purposes, we request that a Tri-Dam Operator(s) familiar with the project be available during the field inspection(s) to answer operational questions and implement lock-out tag-out procedures to allow safe access to the gate structures. We understand that the spillway bridges are not open to public access; however, we do request that access be limited to only pertinent personnel during our field inspection.

Task 3 – Gate Inspection Report (GIR)

Following completion of the field inspection(s), the results of the inspections and review of project information will be summarized in a Tainter Gate Inspection Report (GIR) for each facility. In addition, the three (3) GIR reports will include recommendations for supplemental analyses, rehabilitation, and/or repair, as needed. As per the FERC guidelines, appendices associated with the report is to include the following:

- Appendix A: Inspection Team Resumes
- Appendix B: Status of Previous Recommendations
- Appendix C: Drawings and Schematics
- Appendix D: Inspection Photos
- Appendix E: Inspection Field Notes

Draft copies of the summary reports will be provided to Tri-Dam for review and comment prior to finalizing. Following receipt of comments, Gannett Fleming will prepare both hard and electronic copies of the reports.

Although not anticipated, please note that the reports may identify recommended structural repairs or additional engineering studies. The scope of these recommendations will not be known until the completion of the inspection process and our proposed scope or fee does not include additional studies, analyses, remedial options, or cost estimates.

Task 4 – Project Management

Gannett Fleming will provide management necessary to balance internal resources and to provide regular budget, schedule, and progress updates for Tri-Dam. Gannett Fleming will incorporate progress and schedule updates as part of monthly invoices.

SCHEDULE

We anticipate the site inspections will take place across two separate mobilizations. The first mobilization in early 2024 will allow for inspection of the radial gates at the Tulloch facility. It is anticipated that the inspection week for the Tulloch facility will be composed of the following:

- Monday – Mobilize
- Tuesday – Inspection Day 1
- Wednesday – Inspection Day 2
- Thursday – Contingency Day (In the event of poor weather) or Demobilize.
- Friday – Demobilize if Contingency Day Is Used.

The second mobilization, currently forecasted for late Summer 2024 will allow observation of the radial gates at Beardsley and Donnells. The anticipated schedule for the inspection week for the Beardsley and Donnells gate inspections are as follows:

- Monday -Mobilize
- Tuesday – Inspection Day 1, Beardsley
- Wednesday – Inspection Day 2, Donnells
- Thursday - Contingency Day (In the event of poor weather) or Demobilize.
- Friday - Demobilize if Contingency Day Is Used.
-

It is assumed that during inspection days, the site will be available to the inspection team for a minimum of 9 hours during times of daylight. A general estimated milestone schedule is provided below to meet Tri-Dam’s desired schedule.

Tri-Dam 2024 Radial Tainter Gate Inspection Schedule

Work Item	Estimated Completion Date
Notice to Proceed	December 22 nd ,2023
Kickoff Meeting	January 5 th ,2024
Tulloch HASP Plan Submitted to Tri-Dam	January 12 th ,2024
Tulloch Gate Inspection	February 20 th – 22 nd ,2024
Tulloch Draft Gate Inspection Report	March 29 th ,2024
Tri-Dam Comments Received on Draft Report	April 12 th , 2024
Tulloch Final Gate Inspection Report	April 26 th , 2024
Beardsley / Donnells HASP Plan Submitted to Tri-Dam	June 7 th ,2024
Beardsley Gate Inspection	August 27 th , 2024
Donnells Gate Inspection	August 28 th , 2024

Work Item	Estimated Completion Date
Beardsley and Donnells Draft Gate Inspection Reports (2)	October 25 th , 2024
Tri-Dam Comments Received on Draft Reports (2)	November 8 th , 2024
Beardsley and Donnells Final Gate Inspection Reports (2)	November 29 th , 2024

COST ESTIMATE

The 2024 Tri-Dam Gate Inspections will be performed on a Time and Materials basis. We propose a Not-to-Exceed cost of \$117,915 for the Tainter Gate Inspections. A breakdown of the proposed costs is provided in the attached table. Please do not hesitate to call Josh Paquet at 717-886-5591 if you have any questions regarding our scope of work.

Sincerely,
 Gannett Fleming, Inc.



Joshua Paquet, PE
 Chief Hydraulic Structures Engineer

BOARD AGENDA REPORT

Date: 12/21/2023
Staff: Summer Nicotero

SUBJECT: Discussion and Possible Action to Approve Chief Dam Safety Engineer Support Services

RECOMMENDED ACTION: Staff Recommends Authorizing the General Manager to Execute a Professional Services Agreement for Chief Dam Safety Engineer and Related Support Services

BACKGROUND AND/OR HISTORY:

Tri-Dam is required by the Federal Energy Regulatory Commission (FERC) to employ a Chief Dam Safety Engineer (CDSE) who is responsible for the dam safety of the Project. There is no qualified person on staff and the availability of a trained and qualified individual in our area is unlikely. In an effort to meet the FERC requirements, staff requested proposals from various consulting firms.

In addition to dam safety support, staff asked the consultants to also propose a price for supporting Tri-Dam with the organization and implementation of various compliance report requirements. These supporting activities would include assisting with the required full Emergency Action Plan exercise scheduled in 2024, organization and implementation of recommendations across our Part 12D reports, ODSP reports, STID reports, etc. as well as beginning to prepare for our first Comprehensive Assessment at Tulloch, due in 2026.

As part of this support contract, internal staff would be trained and would transition the workload off the consultant firm. It is estimated this process will take several years as we systematically work through our numerous compliance documents and reporting requirements.

FISCAL IMPACT: TO BE HAND CARRIED- not all proposals received; Budgeted in 2024

ATTACHMENTS: AC Brown Consulting Proposal, Gannett Fleming Proposal, HDR Proposal (to be hand carried)

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)



A.C. Brown, M. Eng., PE
11462 Wales Drive
Redding, CA 96003
(530) 712-5070

acbrown@acbrownc consulting.com

November 6, 2023

Summer Nicotero
Tri-Dam Project
P.O. Box 1158
Pinecrest, CA 95364-0158

Re. Chief Dam Safety Engineer

Dear Summer

At your request, A. C. Brown Consulting is pleased to provide this proposal for Chief Dam Safety Engineer services for the Tri Dam Project in Strawberry California.

The Tri-Dam Project is located along the Stanislaus River. The Tri-Dam project stores and conveys water for the Oakdale Irrigation and South San Joaquin Irrigation Districts and consists of multiple dams of various hazard class, condition, and age. The current federal and state regulatory environment may include annual filings, test of Emergency Action Plans (EAP), inundation mapping, instrumentation review of the Dam Safety Surveillance and Monitoring Report and Plan (DSSMP/R). A typical dam safety program includes internal inspections and inspections with federal and state regulators. Other components of a dam safety program may include, field crew training in dam safety inspections, post-earthquake dam inspections, and EAP activation roles and responsibilities.

The Federal Power Act, part 12, Subsection D (Part12D) requires that every five years a Potential Failure Mode Analysis (PFMA) and associated inspections are conducted in effort to ensure the safety of dams. Upon completion of a PFMA the dam owner must manage the recommendations of the Independent Consultant who conducted the PFMA and ensure the Supporting Technical Information Documents (STID) are updated. Additionally, in any given year the Federal Energy Regulatory Commission (FERC) may have initiatives that result in projects that a dam owner is required to perform. An example of these initiatives includes the Spillway Assessment Programs and projects that were a result of the 2017 Oroville Dam Spillway Failure.

Based on the estimate you provided in your October 23, 2023 email, you will need support for the first three years at a rate of approximately 40 hours per month. You also pointed out that the maximum hours per month could be much higher depending on the project. If lodging is needed Tri-Dam Project has housing available for short stays. What was not included in your estimate was the various projects, programs, initiatives, inspections, trainings, exercises, and other program components that can be a part of a well-functioning dam safety program. The rate developed for this proposal is \$185.00/hour plus expenses. Special programs, initiatives, regulatory filings, and other project components will be negotiated on a case-by-case basis, but will not be less \$185.00/hour plus expenses. Lump sum bids will be estimated on a case-by-case basis. The limits of liability for the dam safety program or special projects and initiatives will be determined when both parties enter into an agreement.

If you have any questions regarding this proposal, please feel free to contact me at your earliest convenience.

Best Regards,

A handwritten signature in black ink, appearing to read 'A.C. Brown', is written over a white rectangular background.

A.C. Brown, M.Eng., PE

Summer Nicotero
Tri-Dam Project

Tri-Dam Project

DAM SAFETY PROGRAM SUPPORT





2251 Douglas Boulevard Suite 200
Roseville, CA 95661
P 916.677.4800

gannettfleming.com

November 1, 2023

Summer Nicotero
General Manager
Tri-Dam Project
31885 Old Strawberry Road
Strawberry, CA 95375

RE: Statement of Qualifications for Dam Safety Program Support

Dear Ms. Nicotero,

As Tri-Dam Project (Tri-Dam) continues to operate and maintain the Donnells, Beardsley and Tulloch projects for the benefit of the communities you serve, Gannett Fleming, Inc. (Gannett Fleming) understands you are looking to engage a consultant team who will work collaboratively with your staff in support of Tri-Dam’s Dam Safety Program. Tri-Dam will need a strategic partner who understands how to engage with your staff, provide both programmatic and senior level support to help prioritize issues, address FERC / DSOD communications and responses, and offer collaborative training to your staff. We are that team.

To meet Tri-Dam’s needs for this contract, our team offers extensive experience in all aspects of dam safety – from designing new dams to inspecting dams, to managing the risk associated with dams – as well as familiar faces that understand your needs and can help to prioritize your dam safety program to address urgent needs while being sensitive to the cost implications.

Our team is highly attentive and responsive, and has prior experience working with Tri-Dam. We routinely interface with FERC’s San Francisco Regional Engineer and the California Division of Safety of Dams (DSOD), and our team includes a deep bench of technical experts in overall dam safety program management, as well as H&H, geology, and geotechnical, structural, seismic, electrical, and mechanical engineering to offer additional support and assistance if requested .

We understand how critical proper oversight of a dam safety program is, and offer accessibility and availability of our carefully selected staff with those goals in mind.

GANNETT FLEMING BRINGS:

Experienced former Chief Dam Safety Engineer (CDSE) Randy Bowersox, PE

Multi-discipline team of experienced experts to offer related support services in house

Experience needed to help Tri-Dam prioritize your dam safety needs with your available capital funds

Great working relationships with FERC’s San Francisco Regional Engineer and DSOD

Proven record of meeting schedules with FERC compliant deliverables

A team with 363 years of combined experience



RE: Statement of Qualifications for Dam Safety Program Support

November 1, 2023

Stacy Vorster, PE will be your primary point of contact for this project, and will serve as Gannett Fleming's Project Manager. Stacy has more than a decade of experience working on western dam safety projects and brings a deep understanding of FERC and DSOD regulations. Stacy has served in a management capacity on numerous dam safety projects, including Part 12D inspections, SQRA (L2RA and L3RA), SLRA, PFMAs, EAPs, and design and rehabilitation work for FERC-regulated facilities. She is a FERC-approved Owner's Dam Safety Program (ODSP) Auditor and has completed extensive Association of State Dam Safety Officials (ASDSO) and U.S. Army Corps of Engineers (USACE) dam safety and assessment training. Stacy has worked with multiple California clients similar to Tri-Dam, including the Turlock Irrigation District (TID), USACE, Pacific Gas and Electric Company (PG&E), Placer County Water Agency (PCWA), and the South Feather Water and Power Agency.

Randy Bowersox, PE will be the FERC and DSOD Technical Advisor for this project. Randy is a former CDSE and understands how to address challenges of maintaining dam safety while meeting FERC and DSOD requirements. He will provide dam safety guidance and assistance on routine, special, or emergency topics; dam safety guidance and assistance in responding to FERC and DSOD letters and recommendations; review comments on reports and studies by others; and consultation assistance with bidding and construction management as required.

And I, **Darren Mack, PE, GE**, will serve as the Project Principal for the project, providing Quality Control and Strategic Advisory recommendations, informed by my extensive experience conducting inspections and coordinating with FERC and DSOD to provide comprehensive dam safety and design services. We have also structured our team with additional depth and support which can be provided as needed by a wide-variety of recognized dam safety Subject Matter Experts (SMEs).

We will allocate appropriate additional resources as needed as our team delivers high-quality services throughout the duration of this contract, drawing on our firm's deep bench of dam safety and technical experts to provide Tri-Dam with additional value.

Thank you for the opportunity to serve Tri-Dam on this important contract. If you have any questions or would like additional information, please do not hesitate to contact Randy or me at the information listed below.

Sincerely,
Gannett Fleming, Inc.

Darren Mack, PE, GE
Vice President



Gannett Fleming, Inc.

2251 Douglas Boulevard, Suite 200
Roseville, CA 95661

FEIN: 25-1613591

Darren Mack, PE, GE

Vice President | Firm Authorized Contact
916.677.4770 | dmack@gfnet.com

Randy Bowersox, PE

Hydropower Market Executive
209.762.2779 | rbowersox@gfnet.com

A. GENERAL QUALIFICATIONS

Having designed more than 150 new dams, rehabilitated more than 750 dams, and evaluated the safety of more than 1,500 dams, we have assisted many other utility clients in California and across the country with geotechnical, seismological, structural, and hydrologic/hydraulic engineering investigations, analyses and design work, as well as regulatory compliance support and project management for dam safety projects. This depth of related experience makes Gannett Fleming the ideal partner to meet Tri-Dam's dam safety program management goals.

A.1. ORGANIZATION INFORMATION

As a multi-disciplined planning, engineering, design, and construction management firm, Gannett Fleming brings 108 years of experience serving municipal, federal, and private clients. As Tri-Dam executes this important dam safety contract, Gannett Fleming is poised to leverage our considerable experience with dams and our ongoing working relationship with Tri-Dam. As industry leaders, Gannett Fleming's dam safety team is well matched to meet your needs under this contract.

A.1.1. Firm Size and Location

Gannett Fleming's **2,700+ highly qualified professionals** across 50+ offices are united in an unyielding commitment to deliver excellence to every client and project. We consider ourselves not just a global infrastructure firm, but also a local firm with deep roots in California, where we have seven offices, including our **Roseville, CA office** (where our key staff are assigned). This makes our work here personal and our team is passionate about helping dam owners to meet regulatory requirements and maintain dam safety throughout California, including work for multiple hydropower organizations such as PG&E, the Placer County Water Agency, and the Nevada, Turlock, Modesto, and Merced Irrigation Districts. Our Roseville office is approximately 90 miles from your (future) Sonora Hydroelectric Headquarters and key dam safety staff, including Randy Bowersox, PE, are located less than 20 miles from Sonora, allowing us to provide rapid response in an emergency situation, as we have in more than five real emergency response cases for other clients in the past.

OUR EXPERIENCE INCLUDES

- 150+** Dam Safety & Risk Assessments
- 100+** Emergency Action Plans
- 50+** Potential Failure Modes Analysis
- 30+** Dam Safety Training Courses
- 25+** Operations and Maintenance Plans
- 7+** Dam Safety Program Peer Reviews



Figure A-1. A Recognized Leader in Dams and Water Conveyance Structures. As a planning, design, technology, and construction management firm, we provide the project experience needed for many different water management infrastructure projects. This experience, supported by our team of 148 dams and hydraulics professionals, has consistently ranked Gannett Fleming among the nation's leading dam and reservoir design firms by ENR (currently #8 in Top 100).

A.1.2. Project Management

Gannett Fleming's project management structure is framed around the needs of our clients. The path to success is followed by taking a partnering approach with Tri-Dam. Especially for this project, we would consider ourselves an extension of Tri-Dam's staff. Through our years of experience, we have learned firsthand that a project is best served when we take the initiative and drive project execution from scope to project close-out.

We will coordinate with Tri-Dam to know when to seek direction and when to proceed; and most importantly, we will continue to keep Tri-Dam abreast of all aspects of project development, as we believe communication is paramount.



Stacy Vorster, PE
PROJECT MANAGER /
DAM SAFETY ENGINEER

916.677.4784
svorster@gfnet.com

Stacy Vorster, PE will be your single point of contact and will be available to provide up to 20 hours per month (including meetings as needed in Forbestown) of General Dam Safety Program support and as-needed dam safety engineering services.

Stacy is qualified and available to help provide:

- Dam safety guidance and assistance on routine, special, or emergency topics
- Dam safety guidance and assistance in responding to FERC and DSOD letters and recommendations
- Review comments on reports and studies by others
- Reporting and Technical Support

Randy Bowersox, PE will work with Stacy and will serve as Gannett Fleming’s Technical Advisor for this project. Randy will monitor FERC and DSOD communications / mandates and provide support to help Tri-Dam as needed.

As appropriate and needed, administrative support efforts can be supplemented by Amber Summersett. For the six-years prior to joining Gannett Fleming, Amber had sole-responsibility for all administrative support of Northern California Power Agency’s (NCPA) Dam Safety Program, including logging, tracking, scanning, and filing dam safety inspection reports, tracking work orders, and assisting NCPA’s CDSE and Hydro Manager with other required administrative and regulatory tasks.

Additional dam safety engineering services and technical expertise encompassing geotechnical, seismological, structural, hydrologic and hydraulic engineering, analyses, design work, and regulatory compliance support and project management functions will be addressed as-needed, leveraging Gannett Fleming’s deep bench of technical talent.

In keeping with Gannett Fleming’s Project Management and Quality Guidelines, we develop contract specific Project Execution Plans (PEP) – including project objectives, approach, and scope of services; and a review of a project’s proposed schedule and costs – and Quality Assurance Plans (QAP). These tools help our team deliver assignments on time and within budget.

Gannett Fleming’s proposed Organizational Chart (Figure A-3), shows some of the resources that are available to assist Tri-Dam with:

- Design, analysis, and recommend repair methods to structures and equipment
- Dam safety studies and analyses
- Providing insight on latest repair, modification, and replacement methods and procedures and assisting in finding vendors or contractors to implement repairs
- EAP updates, seminars, and drills

A.1.3. Commitment to Quality

Gannett Fleming is committed to quality in all of our services through application of an effective and robust Quality Management System (QMS), certified under the ISO 9001:2015 Standard, that maintains a culture of consistency in work products, continual improvement of our processes, and innovation in our technical solutions. Responsibility for meeting these principles is held at the highest level within the organization to verify that we achieve the objectives of our projects while bringing high value to our clients.

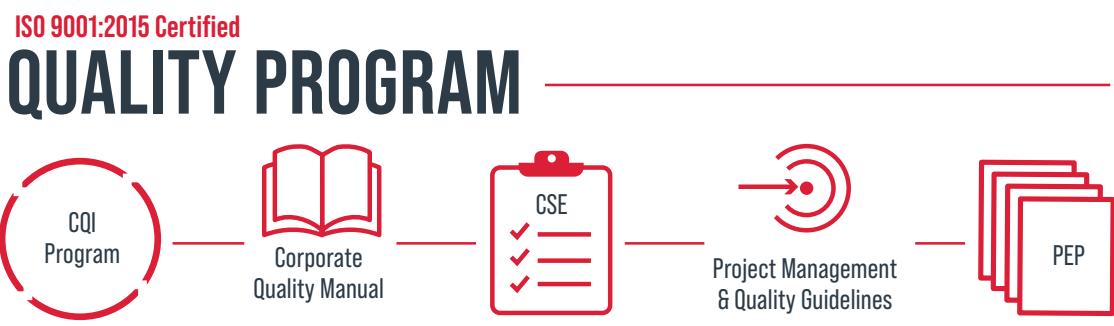
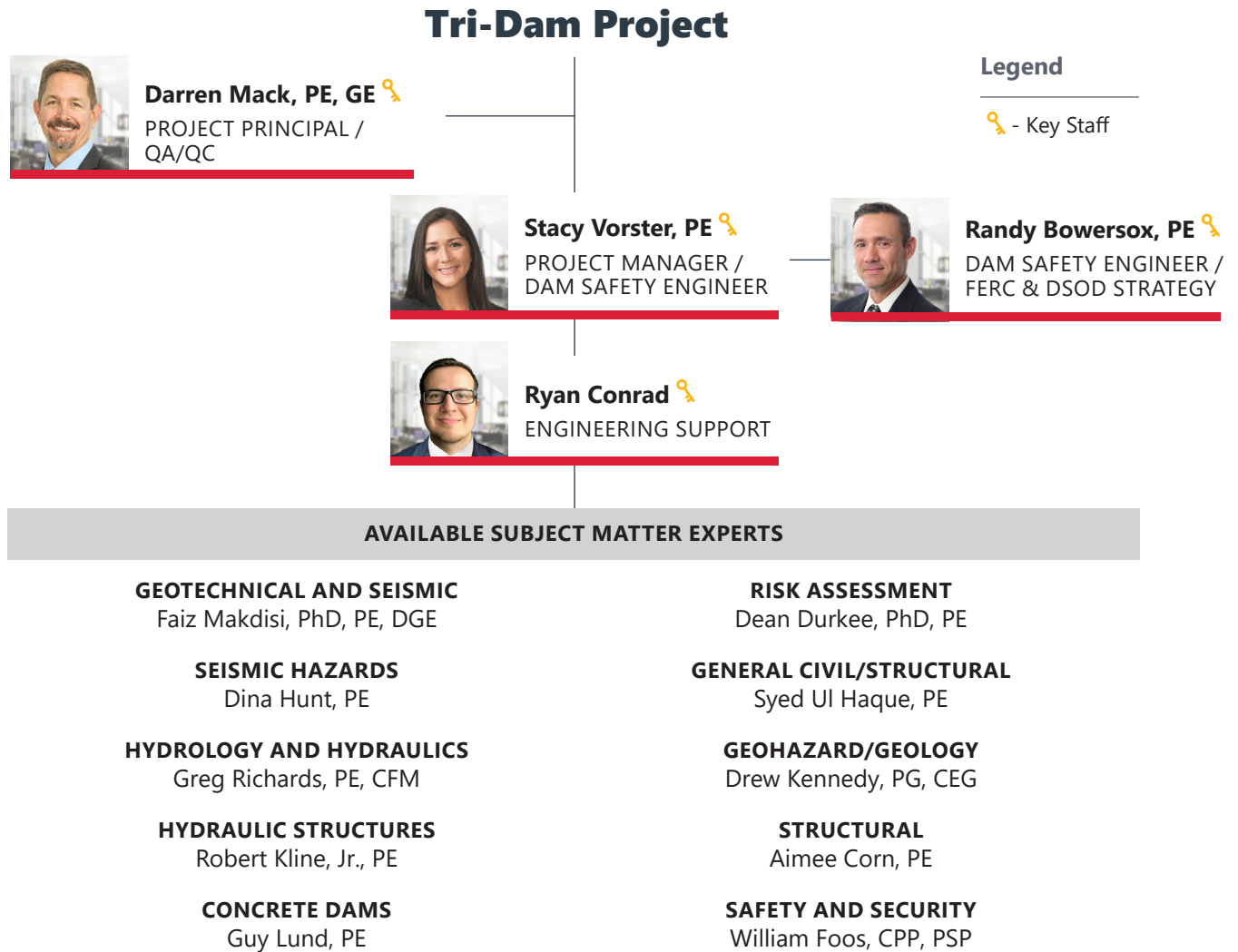


Figure A-2. Commitment to Quality. At Gannett Fleming, “Quality” is the ability to meet our clients’ requirements and achieve their critical objectives. Our QMS defines the processes we use to execute every project across the firm, regardless of scope or scale. We follow these processes from project development through project closeout and every step in between to deliver successful projects for our clients.

A.2. ORGANIZATIONAL CHART

Figure A-3. Organizational Chart. Gannett Fleming’s proposed project team has a combined 363 years of experience. Our team will work under Project Manager Stacy Vorster’s leadership, leveraging our team of SMEs extensive knowledge to provide outstanding dam safety program engineering support services to Tri-Dam under this contract.



A.3. STAFFING COMMITMENT

We understand how critical it is for Tri-Dam to maintain proper oversight of their dam safety program, and that you are looking for an available and responsive consultant who can help. We have carefully selected our primary staff for this project, with those goals in mind. Stacy and Randy have the availability and are committed to helping monitor, prioritize, and track the normal flow of Tri-Dam dam safety communication and activities, and Randy and Darren are in a position to fast-track work to other engineering resources within Gannett Fleming as-needed. We realize that most FERC and DSOD dam safety regulatory tasks are of the “plan and schedule” variety and do not require immediate resolution; however, there is always potential for real “stop-fix” issues to develop, and we are prepared to adapt our responsiveness accordingly, both for our dam safety program support and when providing additional, as-needed engineering services. We are available and ready to provide up to 20 hours per month of general Dam Safety Support and have the resources to provide other as-needed engineering services when needed.

B. TECHNICAL QUALIFICATIONS AND EXPERIENCE

The Gannett Fleming team has the necessary qualifications, experience, and resources to provide Tri-Dam with dam safety program support services, including a proven track record of helping our clients meet FERC and DSOD requirements.

B.1. CLIENT LIST

In the pursuit of safer, more resilient infrastructure, we are leaders in dam safety engineering, providing relevant experience backed by proven performance for clients across the country, such as our ongoing support to Nevada Irrigation District providing almost identical services as those requested by Tri-Dam, and to Placer County Water Agency’s CDSE, including the preparation of annual DSSMRs, STID updates, etc.

Table B-1. Selected Gannett Fleming Dam/Hydropower Clients. We have provided a list of selected dams/hydropower clients below, illustrating our extensive experience provide dam safety related services.

CLIENT NAME	STATE	CLIENT NAME	STATE
Nevada Irrigation District	CA	USACE Los Angeles District	CA
Pacific Gas & Electric Co.	CA	Utica Water & Power Authority	CA
CA Dept. of Water Resources (DWR)	CA	Yuba Water Agency	CA
Jackson Valley Irrigation District	CA	Colorado Springs Utilities	CO
Merced Irrigation District	CA	Denver Water	CO
Modesto Irrigation District	CA	Big Wood Canal Company	ID
Northern California Power Agency	CA	Idaho Falls Power	ID
Placer County Water Agency (PCWA)	CA	Idaho Power Company	ID
South Feather Water & Power Agency	CA	PacifiCorp	ID, MT, UT, WA
Southern California Edison	CA	NorthWestern Energy	MT
Seattle City Light	WA	Chelan Public Utility District	WA
Turlock Irrigation District	CA	City of Spokane	WA
United Water Conservation District	CA	Grant County PUD	WA
Yolo County Flood Control and Water Conservation District	CA	Association of State Dam Safety Officials (ASDSO)	Nationwide

B.2. PROJECT AND SERVICE DESCRIPTIONS



DAM SAFETY ENGINEERING SERVICES, VARIOUS LOCATIONS, CA NEVADA IRRIGATION DISTRICT (NID)

Gannett Fleming is currently providing CDSE support services to NID, in a very similar capacity as this request. Since 2016, we have completed multiple projects for NID including the Combie Dam Alternatives Analysis and Conceptual Design, Milton-Bowman Tunnel and Bowman-Spaulding Canal Tunnel Inspections, Part 12 Dam Safety Inspections and STID Updates, Focused Spillway Assessments, Seismic Stability Analysis of Embankment Dams, and the 10-Year Radial Gate Inspections at Bowman South Dam and Jackson Meadows Dam. **In addition to our specific CDSE Program Management contract with NID, selected relevant projects include:**

Combie Dam Alternatives Analysis and Conceptual Design: Since original construction of Combie Dam in 1928, spillway discharge has caused scour damage to the rock foundation at the toe of the dam. NID is conducting a phased program to expand scour protection downstream of the dam and address structural stability concerns regarding several of the concrete gravity blocks comprising the non-overflow section of the dam. Gannett Fleming completed the initial phase of the project, referred to as the Alternatives Analysis and Conceptual Design (AACD), to develop conceptual design alternatives and help NID identify a preferred alternative. The AACD included collection and review of existing documentation; additional hydraulic, geological, erodibility, and stability analyses to support the selection of remedial design concepts; and development of three conceptual design alternatives satisfying stabilization and scour protection objectives. All three alternatives incorporated scour protection within the main spillway discharge channel that extends downstream as determined in the erodibility analysis. Options for future outlet works capacity expansion were also considered. The design phase is on hold while NID focuses on other projects.

Part 12D Independent Consultant Safety Inspections and STID Updates: Gannett Fleming completed the FERC Part 12D Independent Consultant Safety Inspections and updated the STIDs for the following NID dams: Jackson Lake, French Lake, Jackson Meadows, Bowman North and South, Sawmill, Dutch Flat Forebay, Dutch Flat Afterbay, Rollins, Combie, and Scotts Flat.

FERC Dam Safety and Critical Infrastructure Protection (CIP) Training: Gannett Fleming prepared and conducted a 1-day FERC Security Compliance training course for NID to meet state and federally mandated requirements. The training course covered FERC Security Program Requirements, Physical Security Principles, and FERC's Dam Assessment Matrix for Security and Vulnerability Risk (DAMSVR) risk assessment process. The course was designed and tailored to NID's organization structure and security needs.

Loma Rica Dam Supplemental Evaluation: Gannett Fleming provided seismic stability and deformation analyses of Loma Rica Dam. Gannett Fleming performed a detailed review of field data from a recent subsurface investigation to assess the character of the embankment and foundation materials and develop representative material properties of embankment and foundation materials for use in dynamic response. The review also served to perform a series of two-dimensional time history dynamic response (equivalent-linear) finite element (FE) analyses of the idealized embankment cross section, perform limit- equilibrium analyses of the post-earthquake stability for the upstream and downstream embankment slopes, and estimate the earthquake-induced deformation potential of the upstream and downstream embankment slopes using the sliding rigid-block (Newmark) analysis approach.

Rollins Dam & Jackson Meadows Dam Focused Spillway Assessments: Gannett Fleming conducted Focused Spillway Assessments (FSAs) at Rollins Dam and Jackson Meadows Dam. The FSAs included three primary components: desktop review of design and as-built documents against current state of practice; detailed condition assessment; and potential failure modes analysis (PFMA) specific to spillway-related failure modes.



DAM SAFETY ENGINEERING SERVICES, VARIOUS LOCATIONS, WA GRANT COUNTY PUBLIC UTILITY DISTRICT

The Priest Rapids Hydroelectric Project includes the 179.5-foot-high Priest Rapids Dam and the 205.5-foot-high Wanapum Dam. Grant County PUD owns and operates these facilities and contracted with Gannett Fleming to assist in evaluating the structural, geotechnical, seismic, and hydrologic factors that pertain to dam safety for their hydroelectric project and to meet FERC requirements.

Recent tasks include:

Seismic Stability Analysis: Developed a design response spectra for each dam site using updated ground motion models and field measurements of shear wave velocity. Developed suite of scaled time series for liquefaction risk analysis for the embankment dam at Wanapum and structural stability of the concrete dam at Priest Rapids. Several time series were developed for half magnitude bins ranging from a magnitude 5.0 to 9.0 for both the subduction zone and crustal events. Developed “Seismic Bible” summarizing current and previous studies for both dams to serve as an all encompassing document for use by Grant County PUD.

Wanapum Dam: Participated on the Board of Consultants (BOC) for the Spillway Assessment focused on structural stability and evaluation of PFMs and interim risk reduction measures. Performed seismic and stability analyses for finite element modeling for the spillway remediation project. Seismic design inputs were reviewed and approved by FERC and BOC. Performed a 2D structural seismic stability evaluation of the Wanapum Future Intake Units.

Priest Rapids and Wanapum Dams: Performed a 2D static and pseudodynamic analysis for concrete structures to evaluate the safety due to seismic hazards. Analyses have included configuration and input for normal pool static load case, which was then used for 2D pseudo-dynamic analysis for seismic loading. Results were provided at the foundation and select elevations in the body of the structure. Performed a 3D thermal analysis using ANSYS and a 2D structural stability evaluation of the Priest Rapids Spillway and Pier for normal seismic load cases and thermal analysis. Reviewed, evaluated and developed threshold and action level recommendations for instrumentation at both dams. Instrumentation included multiple crack gages, piezometers, extensometers, weirs, body drains, survey monuments, etc. Prepared documentation and summary report for use by Grant County PUD in development of DSSMR.

Priest Rapids Dam Siphon Analysis: Reviewed Grant County PUD’s design analysis for sizing a siphon vacuum break control valve at the crown of the existing 54-inch-diameter siphon. Reviewed the analysis approach, computations, existing valve and manhole alternative locations, and related findings and provided review comments and alternative approach(es) to meet the project objective. The review considered the need for and routing of additional pipe to direct the intake for the vacuum break vent created by the control valve to a more suitable location. Gannett Fleming also provided design and construction document preparation for installation of 54-strand post-tensioned anchors, 2 per spillway bay, for Priest Rapids Dam.

Unique Challenges: To help visualize the structure, Gannett Fleming created and printed a physical three dimensional plastic model of a typical Priest Rapids Spillway Bay, including radial gate, piers and roadway bridge. The physical model included the proposed post-tensioned anchors and was used during the PFMA Workshop for construction. The physical model assisted PFMA participants in visualizing the complicated interaction of existing and proposed features, as well as construction sequence. The physical model became the property of Grant County PUD Dam Safety Engineers for continued use with interested contractors and stakeholders.



DAM SAFETY ENGINEERING SERVICES, PLACER COUNTY, CA PLACER COUNTY WATER AGENCY (PCWA)

Gannett Fleming has provided on-call dam safety and engineering services to PCWA for the Middle Fork American River Project since 2006. The Middle Fork Project consists of two large dams and principal storage reservoirs, two smaller dams and regulating reservoirs, three small diversion dams, five powerhouses, six tunnels, three penstocks, and ancillary facilities. Three of the dams are considered high hazard.

Since 2012, Gannett Fleming has been assigned more than 120 task orders by PCWA under eight consecutive on-call contracts with a total contract value of \$10M. As part of the on-call services, Gannett Fleming routinely provides as-needed dam safety support to PCWA and assists with the preparation of regulatory compliance documents for FERC, including Part 12D safety inspection reports, updates to the Supporting Technical Information Documents, and annual Dam Safety and Surveillance Monitoring reports for the high hazard dams. Engineering assignments have included facility condition assessments; electrical engineering design for powerhouse excitation systems, transformer and generator protection, and transfer switches; geological and geotechnical engineering investigations; embankment dam seepage analysis and filter compatibility review; concrete dam stability analysis; and civil/structural engineering design.

Gannett Fleming recently reviewed the construction records of LL Anderson Dam as part of a filter compatibility assessment. LL Anderson Dam is a 231-foot-tall, compacted gravel and rockfill shell dam with an upstream-sloping impervious core. Compatibility evaluations were performed to assess the potential for internal migration and/or erosion of the impervious core into the transition zone. As part of the review, Gannett Fleming performed extensive review of the DSOD files and located information regarding changes during construction of the dam crest to account for actual field conditions and fill material shortages, and/or to accommodate contractor proposed changes. To address uncertainties regarding the dam crest materials and performance during PMF flood levels, PCWA directed Gannett Fleming to proceed with a crest evaluation. A Drilling Program Plan (DPP) to collect geotechnical data to inform seepage and deformation analyses of the crest was prepared by Gannett Fleming and is currently under FERC review.

Gannett Fleming recently performed a foundation drain evaluation for Ralston Afterbay Dam that included development of a 3D digital model of the dam to better understand the drain system layout and effectiveness of the drains to reduce uplift pressures. The 89-foot-tall, concrete gravity dam has a crest length of 560 feet, including a central gated spillway. Gannett Fleming subsequently performed a structural stability analysis to evaluate the stability of the dam for the usual, unusual, extreme, and post-earthquake loading combinations. In addition, a structural analysis was performed for a representative spillway pier using the finite element method to evaluate the seismic performance.

With the assistance of Gannett Fleming, PCWA has initiated a phased program to upgrade the Automated Data Acquisition System (ADAS) that was installed on the Middle Fork Penstock in 2013 to monitor differential movement. Phase 1 consisted of installing an inclinometer with vibrating-wire piezometers in a 100-foot-deep vertical boring drilled adjacent to Anchor Block 4 to monitor ground movement and groundwater levels. Phase 2 is currently underway and includes replacing equipment, expanding the number of instrumented saddle blocks, and connecting the ADAS to the Supervisory Control and Data Acquisition System (SCADA). Installation is planned for August 2023.



ENGINEERING AND DAM SAFETY SERVICES FOR DON PEDRO DAM, NORTHERN CA TURLOCK IRRIGATION DISTRICT (TID)

Gannett Fleming has provided engineering and dam safety services to Turlock Irrigation District (TID) for the Don Pedro and La Grange projects over two decades. As the ninth tallest dam in the United States at 585 feet tall, Don Pedro Dam is a critical component of California's water infrastructure. The high hazard dam impounds more than 2 million acre feet of water and provides power, water, and recreation. A few of our recent task orders are detailed below.

Spillway Assessment and Repairs: Following the completion of a FSA at Don Pedro Dam by Gannett Fleming in 2017, TID initiated a phased program with support from Gannett Fleming to address near-term action recommendations in the FSA, including an evaluation of the emergency spillway left training wall stability and foundation erodibility during PMF flows. In 2019, TID conducted a workshop with support from Gannett Fleming to solicit FERC and DSOD input and concurrence with the proposed program to inform the planning and implementation of the work. Following the workshop, Gannett Fleming has evaluated the underdrain system of the concrete control structure and spillway chutes, assessed the erodibility of the emergency spillway right abutment slope, designed a structural retrofit to strengthen the left training wall of the emergency spillway, and developed concrete repair details for the control structure and spillway chute.

Owners Dam Safety Program (ODSP) Audit: Gannett Fleming conducted an external audit of the ODSP. The auditors met with dam safety personnel, conducted staff interviews, assessed compliance with the FERC ODSP guidelines, and prepared an audit report summarizing the auditing process, audit findings, and recommendations for improvement.

Part 12D IC Inspection: Gannett Fleming performed the Tenth Part 12D Independent Consultant Safety Inspection of Don Pedro Dam. As part of the inspection, Gannett Fleming facilitated and provided subject matter experts for a SQRA, which was conducted as a pilot project in partnership with FERC. Darren Mack, PE, GE, and Paul Schweiger, PE, CFM, served as the co-Independent Consultants. Gannett Fleming also prepared the 2021 update of the STID.

Powerhouse Rockfall Mitigation: TID initiated a rockfall hazard and mitigation program in 2018 to reduce risk to personnel and the Don Pedro Powerhouse. Gannett Fleming performed an initial "screening-level" visual assessment and identified five potential rockfall hazards areas. The highest hazard area was unfavorably positioned above the powerhouse and access road. Gannett Fleming performed rockfall analyses and simulation, analysis of alternatives, and engineering design of mitigation measures. The measures were constructed in 2020 and comprised of rockfall drapery, rock anchors, and wire rope stabilization systems for large rock blocks. Gannett Fleming provided engineering support services during construction with on-slope observation using rope access techniques by SPRAT-certified personnel.

Security Plan Updates / Vulnerability Assessment: Gannett Fleming reviewed and assessed the Don Pedro Reservoir Security Program in accordance with standards outlined in the FERC Hydropower Security Program for Hydropower Projects. The assessment included a site audit and inspection of the physical features of TID's assets. The updated security program documents included a consequence analysis, vulnerability analysis, threat assessment and analysis, site security plan, cyber security consequence assessment, exercise situation manual and scenario script, and supporting documents to meet FERC requirements.



**DAM SAFETY ENGINEER STAFF AUGMENTATION,
CHICO, CA**
CONFIDENTIAL CLIENT

Gannett Fleming recently provided full-time engineering and technical support services for FERC dam safety inspections for the client's Shasta and DeSabra watershed hydroelectric facilities. Gannett Fleming performed field inspection activities for visual assessment of concrete spillways and training walls, reinforced hydraulic structures, gates, piers, and other appurtenant structures. Gannett Fleming also coordinated 21 FERC Part 12D Safety Inspections and PFMA workshops for the client's assets within the Shasta and DeSabra watersheds including concrete gravity dams, concrete arch dams, slab-and-buttress dams, and embankment dams. To meet certain compliance requirements of the Dam Safety Program, Gannett Fleming addressed independent consultant and regulatory recommendations.

**We are your consultant and trusted advisor, but most importantly,
Gannett Fleming is your partner.**

B.3. KEY PERSONNEL QUALIFICATIONS AND RELEVANT EXPERIENCE

Our key personnel, **all assigned to our Roseville, CA Office**, were selected based on availability, familiarity, and experience providing dam safety program engineering support services. They will use this experience and expertise to provide quality, comprehensive services to Tri-Dam under this contract.

Resumes for our team are included at the end of this section.



STACY VORSTER, PE

Project Manager

- **Qualifications:** Stacy has more than a decade of experience providing dam safety engineering for clients across the West Coast and has served in a management capacity on numerous dam safety projects, including Part 12D inspections, PFMA's, EAPs, ODSP Audits, and design and rehabilitation work for FERC-regulated facilities.
- **Responsibilities:** Stacy will serve as our Project Manager for this contract and can act as Tri-Dam's primary point of contact for CDSE support services.



RANDY BOWERSOX, PE

Dam Safety Engineer / FERC & DSOD Strategy

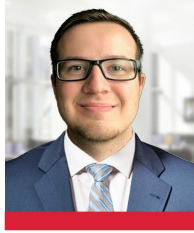
- **Qualifications:** Prior to joining Gannett Fleming, Randy was responsible for operation, maintenance, safety, capital improvement, regulatory compliance, and engineering decisions of three FERC-licensed hydroelectric projects. Randy is also very familiar with the Stanislaus River.
- **Responsibilities:** Randy will leverage his past experience to make sure expectations are met and that the team has available resources to successfully complete this project.



DARREN MACK, PE, GE

Principal In Charge / QA/QC

- **Qualifications:** Darren is a FERC approved Part 12 IC as well as a Chief Geotechnical engineer who has provided canal emergency repairs and landslide mitigations, landslide emergency repairs, design of concrete and shotcrete hydraulic structures, hydropower facility design and rehabilitation, and geotechnical investigations.
- **Responsibilities:** Darren will make sure contract requirements are met and that the team has all available resources as needed. As QA/QC Manager, Darren will verify deliverables meet the established quality criteria for Tri-Dam.



RYAN CONRAD

Engineering Support

- **Qualifications:** Ryan’s experience includes serving as Project Manager for the NID CDSE Dam Safety Engineering Support Project, as well as serving as designer on dam safety, dam, and hydraulics projects, as well as projects involving geotechnical engineering, geology, and geological engineering.
 - **Responsibilities:** Ryan will provide staff engineer level support such as helping to prepare DSSMRs and other support as needed.
-

B.4. SUPPORT SERVICES ORGANIZATION AND CAPABILITIES

We understand that Tri-Dam can’t and does not want to outsource your entire dam safety obligation, but rather engage a partner to supplement in-house resources, coordinate with Tri-Dam, and to provide overall support to help monitor and maintain your Dam Safety Program.

We believe that Gannett Fleming is fully capable, technically competent, directly experienced, and perfectly situated to provide the support needed. In addition, we have the flexibility to be as efficient and financially prudent as possible, bringing the “right” resources to your assistance when needed. We understand what it takes to maintain proper oversight of a dam safety program, and have carefully selected our primary staff to assist you with this critical task.

Stacy and Randy’s backgrounds and experience are perfectly aligned with the current needs of Tri-Dam’s Dam Safety Program, and will be reinforced with our proposed team of dam safety SMEs.

One of Randy’s primary responsibilities for the 15 years he was at NCPA was providing Dam Safety Program engineering support, very similar to what Tri-Dam is requesting. Initially hired in the CDSE role at NCPA, he has direct, hands-on experience as a FERC licensee and DSOD regulated dam owner coordinating and conducting needed regulatory inspections, interfacing with and mentoring Operators and Maintenance techs who visually check dams and collect instrumentation data, preparing Dam Safety Surveillance Monitoring Reports, coordinating Part 12 inspections, updating and training staff on EAPs, providing dam safety and inspection training to Hydro O&M staff, and making annual ODSP presentations to governing boards.

He has hired and trained multiple new CDSE’s, mentored EITs, and coordinated an overall dam safety program to make sure that Regulatory Agency relationships were maintained and tasks appropriately understood, prioritized, and tracked.

We realize that most FERC and DSOD dam safety regulatory tasks are scheduled and do not require immediate resolution; however, there is always potential for real “stop-fix” issues to develop, and we are prepared to adapt our responsiveness accordingly, both for our dam safety program support and when providing additional, as-needed engineering services.

As mentioned in Section A.3. Staffing Commitment, Darren and Randy are both in positions to fast-track work to other engineering resources within Gannett Fleming when needed.



STACY VORSTER, PE

Project Manager / Dam Safety Engineer

Years of Experience:

14

Education:

BS, Civil Engineering,
University of the
Pacific, 2008

MS, Engineering
Science, University of
the Pacific, 2012

Registrations:

Professional Engineer
in California (Civil) -
No. 83219

A proven Project Manager, Stacy will use her decade of experience on western dam safety projects and deep understanding of FERC regulations and requirements to successfully lead the performance of thorough, compliant CDSE services for Tri-Dam. Stacy has served in a management capacity on numerous dam safety projects, including Part 12D inspections, SQRA (L2RA and L3RA), SLRA, PFMA, EAPs, and design and rehabilitation work for FERC-regulated facilities. She is a FERC-approved Owner's Dam Safety Program (ODSP) Auditor and has completed extensive Association of State Dam Safety Officials (ASDSO) and U.S. Army Corps of Engineers (USACE) dam safety and assessment training. Stacy has worked with multiple California clients including the Turlock Irrigation District (TID), USACE, Pacific Gas and Electric Company (PG&E), Placer County Water Agency (PCWA), and the South Feather Water and Power Agency.

Relevant Projects

EAP Services, Strawberry, CA, Tri-Dam Project. Supporting Dam Safety Engineer for EAP services for three dams to comply with FERC requirements and recent revisions to California statutes and regulations. Services have included managing project scope and schedule; coordinating preparation of inundation maps for Donnell, Beardsley, and Tulloch Dams; planning and facilitating EAP tabletop and functional exercises for Tulloch Dam with potential use to be modified for the other dams; and rewriting the EAP in accordance with current FERC and California OES requirements. Specific responsibilities included participating in EAP exercise coordination and planning efforts, reviewing existing data and reports on the Tri-Dam project, with particular emphasis on previously identified PFMs; assisting with development of a realistic failure scenario to use during the tabletop and functional exercises; and reviewing the EAP rewrite.

Don Pedro Dam Part 12D IC Inspection, La Grange, CA, TID. Project Manager overseeing the 10th Part 12D IC Safety Inspection and evaluation of the 585-foot-high Don Pedro Dam. Planned, coordinated, participated in, and recorded for the two-week SQRA as a FERC RIDM pilot project for the many stakeholders. Responsible for preparation of the SQRA report and assisting the Co-ICs with preparation of the Part 12D report.

Ralston Afterbay Dam Part 12D, Placer County, CA, PCWA. Project Manager/PFMA Recorder for the Part 12D safety inspection report. Responsibilities include review of existing data and reports on the Ralston Afterbay and its appurtenant structures, with a particular emphasis on information developed since the last Part 12D safety inspection report in 2015. Facilitated a PFMA review session following the field inspection to review the PFM descriptions, current classifications, potential modifications to the classification, and identified and

classified any newly identified potential failure modes (PFMs). Also facilitated the PFMA review session and prepared an addendum to the PFMA report to document the discussions and changes, if any, to the PFMs. Specific responsibilities included management of scope and schedule for the overall project; developed advance documentation to expedite the PFMA review session; served as PFMA recorder; and prepared the draft PFMA report.

Upper and Lower Dawson Level 1 Risk Assessment (L1RA), Stanislaus County, CA, TID. Co-Facilitator/Recorder for an L1RA for the Dawson Hydroelectric Project, which comprises Upper Dawson Dam (FERC Project No. 3136, operated under a conduit exemption), Lower Dawson Dam 1, and Lower Dawson Dam 2. The dams are owned and operated by TID and currently have a “low hazard” potential classification from FERC and DSOD. The Lower Dawson embankments were constructed in the late 1800’s and are between 14 and 22 feet high. The Upper Dawson embankment was constructed in 1983 and is up to 40 feet high, with a concrete outlet conduit (bypass structure) and integral powerhouse. The purpose of the L1RA was to help develop relative risk estimates for each dam in an inventory in an efficient and systematic manner that can be a valuable tool for identifying uncertainties and prioritizing potential dam safety management actions, such as future studies or investigations. Responsibilities included performing a site visit of the facilities and working closely with the Owner’s dam safety staff to develop and screen PFMs, as well as estimates of failure likelihood and consequences.

ODSP External Audit Services, Western U.S., Confidential Client. Team Leader and FERC-Approved Co-Auditor of a two-member ODSP audit team for an external audit of the ODSP per the requirements of the FERC Outline for Owner’s Dam Safety Program Section 10 Audits and Assessment. The team reviewed files, correspondence, studies, reports, inspections, policy, guidance, organization charts, and job descriptions; conducted interviews with senior management, engineering, and operations staff, and visited facilities from five hydroelectric projects. Produced an audit report of the dam safety program and made recommendations for program improvements, including best practices in dam and levee safety risk analysis workshop, risk tools and calculations for risk assessments, and decomposing PFM and constructing event trees.

Pit 3 Dam Focused PFMA Workshop, Shasta County, CA, Confidential Utility Client. Project Manager/PFMA Recorder for a supplemental PFMA session for an in-depth review of specific PFMs for Pit 3 Dam. Assisted the client with scheduling, organizing, and subcontracting a specialized panel of nine SMEs for the four-day PFMA session. Worked with the PFMA facilitator to compile and distribute compiled, succinct review materials prior to the meeting; served as PFMA recorder; and responsible for preparation of the draft PFMA report.

Lake Fordyce Dam, Nevada County, CA, Confidential Utility Client. Project Manager during the design of seepage mitigation measures for Lake Fordyce Dam, a concrete-faced rockfill dam, located in the Sierra Nevada Mountain range. Gannett Fleming developed three alternatives to cost effectively control seepage into the upstream toe of the dam and cut off seepage from entering the abandoned low-level outlet. Our firm is also the project engineering lead for all technical tasks and has been responsible for design of the selected alternative. Specific responsibilities have included project management and client coordination during preparation of construction documents (plans and specifications) for the proposed project; participated in multiple design review presentations to California DSOD, FERC, and the Board of Consultants; and served as the recorder for two Supplemental PFMA sessions to develop additional PFMs related to temporary construction and the final as constructed project configurations. Specific responsibilities included client coordination during preparation of construction documents (plans and specifications) for the proposed project; participating in multiple design review presentations to California DSOD, FERC, and the Board of Consultants; and serving as the recorder for two Supplemental PFMA sessions to develop additional PFMs related to temporary construction and the final as-constructed project configurations.



RANDY BOWERSOX, PE

Dam Safety Engineer / FERC & DSOD Strategy

Years of Experience:

23

Education:

BS, Electrical Engineering, University of California, Davis, 2000

MS, Civil/Environmental Engineering, University of California, Davis, 2002

MBA, University of California, Davis, 2002

Registrations:

Professional Engineer in California – No. 66837

Certified Professional in Erosion and Sediment Control (CPESC): EnviroCert International – No. 4017

*Randy currently serves as the Gannett Fleming hydropower market team lead, focused on helping clients achieve management and operational excellence, navigate complex energy markets and regulations, deploy capital and resources strategically, manage risk and safety, and realize financial goals. His dam safety experience includes serving as Design Engineer, Project Manager, and Construction Manager for 10+ dam safety and water conveyance projects, as well as serving as the primary author and/or responsible oversight for 60+ Dam Safety Surveillance Monitoring Reports. **Randy's 15-year career with NCPA, combined with his comprehensive similar experience and local knowledge, offers him the unique ability to effectively consider this project from your perspective, while also applying his proven expertise to effectively guide technical aspects and inform responsive decision making and ultimately improving overall project delivery from our team.***

Relevant Projects

Dam Safety Program Management Support, Nevada Irrigation District. Technical Lead and FERC / DSOD Strategy lead for NID Dam Safety Engineering Support Services. Providing general dam safety program support and engineering, guidance and assistance in responding to FERC and DSOD issues, and dam safety strategic advisory services for NID's fleet of 24 dams.

Chief Dam Safety Engineer, NCPA. Directed dam safety, instrumentation, and hydrology programs for FERC Project Nos. 2409, 11563, and 11197. Provided permitting oversight, construction management, environmental due diligence, and engineering design. Responsible for ODSP, DSSMRs, and compliance with Code of Federal Regulations (CFR) 18, Part 12D for a portfolio of seven FERC and DSOD regulated dams, including concrete arch, concrete gravity, rock fill, and earthen dams.

Power Generation Executive Leadership, NCPA. Key member of NCPA's Executive Management Team. Managed more than \$1.5 billion of public investment in power generation facilities on behalf of 16 California public power systems serving more than 700,000 electric customers. Provided oversight and had responsibility for a diverse fleet of 13 generating units with an annual budget of \$365 million. Monitored emerging renewable generation and energy storage technologies. Engaged on the federal and state levels to influence policy and regulations. Managed and sustained a high-performance team of four subordinate managers supervising 90 employees. Responsible for dam safety program corporate communications, asset management, coordination of labor unions, safety programs, and strategic direction.

Hydroelectric Management, Operations, and Maintenance, NCPA. Hydroelectric Plant Manager responsible for all operation, maintenance, safety (including dam safety), capital improvement, regulatory compliance, engineering decisions and budgeting for 3 FERC licensed hydroelectric projects totaling 259 MW and including seven reservoirs, 230-kv transmission, recreation facilities, and other infrastructure. Coordinated and negotiated with numerous public agencies and regulatory entities to build consensus and gain approvals. Routinely interfaced with elected officials, board members, industry leaders, and executives. Developed risk matrix, 50-year repair and replacement program, and integrated strategies to optimize personnel, maintenance strategies, capital improvements, and management planning. Facilitated Emergency Action Plan (EAP) tabletop and functional exercises. Experienced in leading multi-disciplinary teams of engineers, trades personnel, and operators. Responsible oversight for Owner's Dam Safety Program.

Upper Utica Project - Historic & Cultural Compliance, Alpine and Tuolumne Counties, CA, NCPA. Market Executive for this hydroelectric project's Historic Property Management Plan (HPMP) implementation that includes field work and documentation as required by the FERC, U.S. Forest Service (USFS), California State Historic Preservation Office (SHPO), and various Tribes. The scope of work includes site visits, visual observations, photo documentation of features, and report preparation consistent with NCPA's FERC-approved HPMP.

FERC Relicensing Program, Angels Camp, CA, Utica Water & Power Authority. Design Engineer. Provided technical assistance with the relicense of FERC Project Nos. 2019 and 2699. Project complexities included gauging plans, H-Flume weir designs, a watershed restoration plan, slope stability evaluations, historical properties maps, cultural resources, and system maps to successfully satisfy the USFS Federal Power Act Section 4(e) conditions and other FERC requirements.

Chicago Park Powerhouse, CA, NID. Market Executive for condition assessment and evaluation to determine the feasibility and economic viability of increasing power output. The project includes analyzing power market revenue sources, dynamics, and constraints to provide strategic investment decisions.

Acquisition Strategic Advisory Services, Western U.S., Confidential Client. Market Executive providing strategic advisory services in support of the client's due diligence and pre-feasibility for potential acquisition of a licensed hydroelectric facility regulated by the FERC. The hydroelectric facility will help power a carbon-negative green hydrogen and renewable natural gas (RNG) production plant.



DARREN MACK, PE, GE

Project Principal | QA/QC Manager

Years of Experience:

26

Education:

BS, Civil Engineering,
University of
California, Davis, 1996

MS, Geotechnical
Engineering,
University of
California, Berkeley,
1997

Registrations:

Professional Engineer
in California -
No. 59084

Professional
Geotechnical Engineer
in California -
No. 2634

*Darren is a Chief Geotechnical Engineer whose diverse background in both geotechnical engineering and civil/structural design makes him a true "geostructural" engineer. His experience includes canal emergency repairs, canal landslide mitigation, landslide emergency repair, design of concrete and shotcrete hydraulic structures, hydropower facility design and rehabilitation, and geotechnical investigation. In addition, he has provided facility evaluation and programmatic input to clients' Asset Management and Capital Improvement planning programs. . **Darren will work directly with the project team to verify that all deliverables meet the established quality criteria for Tri-Dam, as well as Gannett Fleming's internal quality QMS, certified under the ISO 9001:2015 Standard.***

Relevant Projects

Don Pedro Dam Part 12D IC Inspection, La Grange, CA, TID. Co-IC for the Part 12D safety inspection and pilot SQRA for a zoned earth and rockfill dam and three associated dikes. The main dam is 585-feet-high and 1,900-feet-long. The dikes are up to 36-feet-high and are also zoned embankment dams. A 75-foot-tall diversion dike in the downstream spill channel is also part of the project and is comprised of earth and rockfill with a vertical impervious core. There are two spillways, the main spillway with three, 45-foot-wide by 30-foot-high radial gates, and an emergency spillway with an ungated ogee section that is 955 feet long. Performed the review of the project data, including the past Part 12D, STID, and PFMA documents; performed the Part 12D dam safety inspection; performed expert elicitation as the IC and Geotechnical SME for internal erosion failure modes during the pilot SQRA; and authored the Consultant's Safety Inspection Report and PFMA reports.

Open-End Engineering Services, Ralston Afterbay Dam FERC Part 12D Study, Placer County, CA, PCWA. Co-IC for the Part 12D safety inspection and PFMA for this 89-foot-tall, concrete gravity dam with a crest length of 560 feet. The spillway consists of five bays, each equipped with a 40-foot-wide by 30-foot-high radial gate. Reviewed past Part 12D, STID, and PFMA documents; performed the Part 12D site inspection; participated in and facilitated the two-day PFMA review meeting, including updating the existing PFMs to include a clear description of the initiators and failure progressions, as well as developed new potential failure modes based on the data review and site inspection; and prepared the Part 12D and PFMA reports. The project was completed in 2020 on schedule.

Dam Safety Enhancement Program - Vulnerability Index (VI), Western U.S., Confidential Client.

Dam Safety consultant assisting the client with implementation of a VI to aid in portfolio evaluation of the 61 significant and high hazards dams within their portfolio. Specific services included review of VI procedures used by a similar agency; development of procedures and scorings sheets for development of VI scores; managing and performing quality control review on the development of VI scores for each dam; participating on the client's VI review team; and assisting with implementation into the dam safety asset management software platform.

Lake Valley Canal Drainage Improvements, Placer County, CA, Confidential Client.

Principal-in-Charge for the replacement of a segment of the Lake Valley Canal with a buried pipeline. Two large drainage swales that intersect the canal caused damage to the bank side liner and were a source of significant uncontrolled runoff into the canal. Gannett Fleming performed an alternatives analysis to evaluate alternatives for repairing the canal and installing drainage improvements or replacing the canal with a pipe. The preferred alternative was to replace the gunite canal with a 36-inch-diameter high-density polyethylene pipe (HDPE) installed along approximately 1,700 feet of the existing canal alignment. Additional improvements included raising the elevation of an access road downslope of the canal and installing several culverts to allow surface drainage to pass under the road. Specific responsibilities included oversight, quality control review, and consultation during development of alternatives, selection criteria, and opinions of probable cost; evaluation of the preferred alternative; and preparation of construction drawings, specifications, and calculations.

Halsey Forebay Dam No. 1 Seepage Mitigation, Auburn, Placer County, CA, Confidential Client.

Engineer-of-Record for engineering assessment, design, and construction support services for the Halsey Forebay Dam No. 1 Seepage Mitigation Project. The project objective was to address ongoing seepage issues through the right groin of the earth embankment dam. The project included overlaying the existing concrete-lined spillway with new 4.5-inch thick, water-tight shotcrete liner; constructing a seepage mitigation berm, subdrain system, and measurement weir at the right abutment; and grading and drainage improvements to adequately direct surface water to suitable facilities away from the dam. Was responsible for the geotechnical design and evaluation efforts, including directing and performing technical review of the embankment seepage analyses and development of the technical report and construction documents; designing the reinforced shotcrete overlay for the spillway rehabilitation; coordinating with the owner and governing agencies during the permitting and construction phases; and overseeing post-design support services, including observing placement of the seepage berm subdrain; seepage berm fill placement; and placement of reinforcing steel and shotcrete for the spillway liner.

Flume 47C Replacement, El Dorado County, CA, El Dorado Irrigation District. QA/QC for replacement of an approximately 100-foot-long elevated trapezoidal wood flume constructed in the mid-1950s that spans a washed-out portion of the berm. Improvements include rebuilding the flume, which will eliminate adverse hydraulic effects currently observed throughout the section.

Asset Management Technical Support, Nevada County, CA, Confidential Client. Consultant and Project Manager for a private utility client's asset management group with respect to identification and prioritization of repairs to major shotcrete-lined water conveyance canals. Specific responsibilities have included participating in annual walk downs of the water conveyance canals to identify, evaluate, and record locations of structural distress and proposed locations for both maintenance patching and capital replacement; evaluation of geotechnical and geologic hazards that could impact the conveyance facilities; working within a "Core Team" of SMEs to develop risk evaluation criteria to rank and prioritize segments that require capital repair; evaluating alternatives to traditional shotcrete lining on a systemwide basis ("2014 & Beyond" study), including development of order-of-magnitude costs for a cost comparison, and preparation of a report documenting the findings of the alternative evaluation; and consulting on the impacts to the prioritization structure as emergent issues arise. Services have been performed on an ongoing basis since January 2013.



RYAN CONRAD

Engineering Support

Years of Experience:

5

Education:

BS, Civil Engineering,
California Polytechnic
State University, San
Luis Obispo, 2018

Registrations:

EIT: California -
No. 166552

Ryan's experience includes working on dam and hydraulics projects, as well as projects involving geotechnical engineering, geology, and geological engineering. The focus of his career is on civil and structural engineering, including serving as Project Manager and Designer on dam safety projects. He has provided support on EAPs, Type II Integrated Energy Policy Reports (IEPRs), Part 12D safety inspections and in the preparation of project-related documents and reports. His EAP experience includes serving on a confidential utility client's EAP Public Safety Support team since 2020.

Relevant Projects

Dam Safety Program Management Support, NID. Project Manager for NID Dam Safety Engineering Support Services. Providing general dam safety program support and engineering, guidance and assistance in responding to FERC and DSOD issues, and dam safety services for NID's fleet of 24 dams.

Open-End Engineering Services, Ralston Afterbay, Placer County, CA, PCWA. Assisted with the preparation of the 2020 Part 12D safety inspection report. Responsibilities include review of existing data and reports on the Ralston Afterbay and its appurtenant structures, with a particular emphasis on information developed since the last Part 12D safety inspection report in 2015.

Don Pedro Dam Part 12D IC Inspection, La Grange, CA, TID. Assisted with the preparation of the 2020 Tenth Part 12D safety inspection of Don Pedro Dam, which is 585 feet tall and the ninth tallest dam in the United States. Risk workshops were performed using semi-quantitative risk analysis (SQRA), considering seismically induced, flood, and operating conditions as potential failure modes. Don Pedro Dam is part of the New Don Pedro Hydroelectric project located in Tuolumne County along the Tuolumne River. The reservoir is formed by the main Don Pedro Dam and three smaller embankments (Dikes A, B, and C). Don Pedro Dam is a zoned earth and rockfill structure approximately 585 feet tall and 1,900 feet long. Dikes A, B, and C are constructed in low saddles on the reservoir rim. The release of floodwater from the reservoir is provided by a gated (primary) spillway and an ungated (emergency) spillway.

Public Safety EAP Support, Western U.S., Confidential Client. Designer assisting with composing/updating EAPs and executing EAP exercises for many dams to fulfill requirements set forth by the California Governor's Office of Emergency Services, the CA DWR – DSOD, and the FERC. Our firm's responsibilities involved assisting with organizing appropriate phone drills, seminars, tabletop exercises, and functional exercises, as well as compiling appropriate EAP documentation. Support for this project included assisting

with and/or leading exercise preparation, activities, reports, and external and internal meetings, as well as assisting with EAP updates, rewrites, and coordination efforts with internal staff, client representatives, and various dam stakeholders.

DeSabla Forebay Slope Erosion Control, Butte County, CA, Confidential Client. Designer/Project Manager for support for the development of erosion mitigation measures at DeSabla Forebay Dam. The client hired our firm to scope out, evaluate, and develop alternatives related to mitigating the ongoing erosion issue along the dam's downstream earthen embankment slope. On selecting the solution of rock armoring along the slope, the client retained our engineering services to lead the design efforts for this solution. Support for this project includes developing and managing an alternative analysis report with conceptual figures, managing the design proposal package, performing a site visit for further site evaluation, furthering the rock armoring alternative into a full design with full CAD drawings, and coordinating external and internal project management tasks, including scheduling, staff availability, budgeting, and client interactions.

Fordyce Dam, Nevada County, CA, Confidential Client. Designer providing support to better control the Lake Fordyce Dam's history of seepage at the downstream toe. Our firm provided assistance in determining mitigation measures for the dam's seepage. Support for this project included assisting with budget planning, composing a DPP, and coordinating with and compiling response documents for the client, CA's DWR – DSOD, the FERC, and other involved consultants.

Indefinite Delivery/Indefinite Quantity (IDIQ) - Wide Dam and Levee Safety Program - Geotechnical Engineering, Investigation, and Design Services, Various Locations in CA, USACE, Sacramento District. Designer providing support for a Type II IEPR — also called a Safety Assurance Review (SAR) — for the following projects: Hamilton City Flood Damage Reduction and Ecosystem Restoration Project – Phase 2B Design and the American River Common Features 2016 Project – Sacramento East River Levee (SREL) Contract 1. The USACE hired our firm to participate in the SAR panel to provide external opinions on project-related features. Supporting this project involves composing progress reports, final reports, and quality control plans (QCPs). **Dam Seepage Mitigation, Western U.S., Confidential Client.** Designer providing support to better control the dam's history of seepage at the downstream toe. Our firm was hired to provide assistance in determining mitigation measures for the dam's seepage. Support for this project included assisting with budget planning, composing a DPP, and coordinating with and compiling response documents for the client, CA's DWR – DSOD, the FERC, and other involved consultants.

Hydro Waterways Safety Improvements, Engineering Design Services for Berm Widening Standards, Western U.S., Confidential Client. Designer for support for creating standards and typical details for the usage of backfilled fiber-reinforced plastic (FRP) gratings/panels with steel U-channel anchor posts. These standards and details are to be a part of the client's ongoing Hydro Waterways Safety Improvements Project, which includes widening berms at select locations along various canals to meet minimum safety requirements. Support for this project includes composing a design criteria memorandum (DCM), developing spreadsheets for structural calculations, assisting with CAD drawings, and compiling a final design package.

Old Lower Plant Powerhouse Structural Evaluation and Analysis, Idaho Falls, Bonneville County, ID, Idaho Falls Power (IFP). Designer for office and drafting support for a structural and seismic analysis of the Old Lower Powerhouse structure to determine its integrity, as well as compliance with current building codes. Prior to hiring our firm, IFP had completed some retrofit to improve certain sections of the Old Lower Powerhouse. They hired our firm thereafter to perform a full analysis of the powerhouse to assist in their efforts of complete improvements. Support for this project included existing document reviews, CAD drafting, spreadsheet development, structural calculations, and design report compilations.



DREW KENNEDY, PG, CEG

Available SME: Geohazard/Geology

Years of Experience:

33

Education:

BA, Earth Sciences,
University of
California, Santa Cruz,
1990

MS, Applied
Geosciences, San
Francisco State
University, 2002

Registrations:

Professional Geologist
in California –
No. 6704

Certified Engineering
Geologist (CEG) in
California – No. 2127

Drew has 33 years of experience focused on engineering geology related to hydroelectric and water storage/conveyance facilities; including dams, saddle dikes, canals, pipelines, penstocks, and tunnels. Drew has spent his career focused on improving dam safety in California, delivering comprehensive engineering geology related to critical structures and lifelines. He has directed geological and seismic hazard investigations for a variety of hydroelectric and water storage/conveyance facilities, including dams, saddle dikes, canals, pipelines, penstocks, and tunnels. He frequently assists clients with risk evaluation and asset management, and acts as a liaison with regulatory agencies, including FERC and California DSOD.

Relevant Projects

Combie Dam AACD, Nevada County, CA, NID. Project Manager and Engineering Geologist for an AACD of improvements to an 85-foot-tall variable-radius concrete-arch dam to mitigate scour potential at the downstream toe, improve stability of gravity sections, and increase flow capacity of the outlet works. Managed a multidisciplinary team of engineering geologists, civil/structural engineers, environmental scientists, and construction experts to evaluate and address rock scour and dam stability under flows up to the probable maximum flood (PMF). Responsible for overall project management, communication with the owner, schedule and cost control, and review of all deliverables.

Jackson Meadows Dam and Rollins Dam FSA, Nevada County, CA, NID. Lead Engineering Geologist for an FSA of the spillways at Jackson Meadows and Rollins dams. The FSA included three primary components: desktop review of design and as-built documents against current state of practice; detailed condition assessment; and PFMA specific to spillway-related failure modes. Member of the condition assessment team, participated in the focused PFMA session, and co-authored the FSA report that included recommendations for near-term and long-term action.

Don Pedro Dam Part 12D IC Inspection, La Grange, CA, TID. Project Principal for the Tenth Part 12D safety inspection of Don Pedro Dam, which is 585 feet tall and the ninth tallest dam in the United States. Performed an inspection of the Power Tunnel, acted as the engineering geology SME during an SQRA workshop conducted as a pilot project by the licensee in partnership with FERC, and assisted with preparation of Part 12D IC safety inspection report.

Geologic and Engineering Services for Middle Fork American River Project, Placer County, CA, PCWA. Project Manager and Lead Engineering Geologist for the Middle Fork American River Hydroelectric Project (FERC Project No. 2079), a system consisting of two major storage reservoirs, five smaller regulating reservoirs and diversion pools, and five powerhouses that began operation in 1967. Managed more than 120 task orders with a total contract value of more than \$10 million since 2012. Past assignments have included dam safety and surveillance monitoring reports; geotechnical monitoring; geotechnical investigation; rock slope stability evaluation; rockfall vulnerability assessment; subsurface exploration; borrow site assessment; dam seepage and stability analysis; and dam safety reviews. Assignments typically required providing geologic mapping, installing instrumentation, analyzing geologic/ rockfall, preparing technical reports, selecting and designing appropriate mitigation measures, and providing as-needed technical support during construction. Served as the engineering geology SME for the 2020 Part 12D inspection of Ralston Afterbay Dam and participated in the PFMA workshops for the 2021 Part 12D inspections of Hell Hole and LL Anderson dams.

Open-End Engineering Services, Ralston Afterbay, Placer County, CA, PCWA. Project Principal for the Part 12D safety inspection report. Responsibilities include review of existing data and reports on the Ralston Afterbay and its appurtenant structures, with a particular emphasis on information developed since the last Part 12D safety inspection report in 2015. Acted as SME for geologic issues during the PFMA review session and assisted with preparation of Part 12D safety inspection report.

Don Pedro Dam FSA, Tuolumne County, CA, TID. Project Manager and Lead Engineering Geologist for a FSA of the primary and emergency spillways at Don Pedro Dam, which is the ninth tallest dam in the United States. The FSA included three primary components: (desktop review of design and as-built documents against current state of practice; detailed condition assessment; and PFMA specific to spillway-related failure modes. Member of the condition assessment team, participant in the focused PFMA session, and lead author for the comprehensive FSA report.

New Exchequer Dam Gallery Access Structure Rockfall Hazard Evaluation, Merced County, CA, Merced Irrigation District. Project manager/engineering geologist for a preliminary evaluation to assess the vulnerability of the Exchequer Dam gallery access structure to rockfall. The structure consists of a fully-exposed reinforced concrete conduit, which is used by Merced Irrigation District personnel to periodically access the main gallery within the original Exchequer Dam. The original dam is located upstream of New Exchequer Dam, and approximately 168 feet below the current maximum reservoir water level. Managed the geologic reconnaissance mapping of the exposed rock slopes, rock slope stability analyses, rockfall simulation analyses, structural analyses of the access structure, and development of preliminary concepts for rockfall protection.

Director's Safety Review Board (DSRB) and Tenth Five-Year FERC Part 12D Safety Inspection – Oroville Complex, Butte County, CA, CA DWR. Engineering Geologist on a three-person Part 12D independent review board who performed federal- and state-mandated safety inspections for the Oroville Complex, including Oroville Dam, Bidwell Bar Canyon Saddle Dam, and Parish Camp Saddle Dam. The Board's responsibility involved inspecting and evaluating the safety of the dams and related facilities, and attending a series of Level 2 Risk Assessment (L2RA) workshops held to estimate the likelihood of occurrence and consequences for potential failure modes. In accordance with a congressional mandate, this was the first Part 12D Safety Inspection to incorporate risk-informed decision-making. The Board used the results of the L2RA to inform the preparation of comprehensive Part 12D IC safety inspection reports (one for each dam), which included a DRSB section meeting the requirements of the California Code of Regulations. The reports were finalized and submitted to FERC in August 2020.



FAIZ MAKDISI, PHD, PE, DGE

Available SME: Geotechnical and Seismic

Years of Experience:

47

Education:

BEng, Civil Engineering, American University of Beirut, Lebanon, 1970

MS, Geotechnical Engineering, University of California, Berkeley, 1971

PhD, Geotechnical Engineering, University of California, Berkeley, 1976

Registrations:

Professional Engineer in California (Civil) - No. C 29432

Faiz has focused on geotechnical studies, seismic evaluations, and safety evaluations of earthfill and rockfill dams, embankments, and levees for the past 47 years. He has performed stability evaluations of embankment slopes, seepage analyses, and static- and dynamic-stress analyses to evaluate stability during earthquakes. In addition, Faiz performed studies to determine earthquake-induced permanent deformations in slopes and embankments. He currently serves as a member of several panels providing peer review of the design and construction of setback levees and levee upgrades on the Bear River, Feather River, and South Yuba River north of Sacramento, California. A recognized thought leader in the industry, he has presented more than 40 lectures at various seminars and workshops and also at major universities across the country. Faiz is a FERC-approved IC and has performed FERC Part 12D safety inspections for more than 80 dams and facilitated PFMA workshops for more than 40 dams.

Relevant Projects

Seismic Stability and Deformation Analyses of Eleven Embankment Dams, Northern CA, NID. Principal-in-Charge and Senior Technical Reviewer of analyses of the seismic stability and seismic performance of 11 earth and rockfill embankment dams subjected to updated earthquake ground motions. The dams are under the jurisdiction of the CA DWR, DSOD.

Fordyce Dam, Nevada County, CA, Confidential Client. Senior Technical Reviewer for the development of alternatives to cost-effectively control seepage into the upstream toe of the dam and to cut off seepage from entering the abandoned low-level outlet beneath the dam. Lined the upstream concrete face with geosynthetic liner, pursuing an overall goal of significantly reducing the seepage at the downstream toe of the dam. Our firm was the project lead for all technical tasks and had primary responsibility for developing the conceptual plans and performing the alternatives evaluation. Retained subconsultants to provide construction cost/schedule estimates, constructability review, and environmental consultation.

Oroville Dam Spillway, Oroville, CA, CA DWR. Geotechnical/Earthquake Engineer sits on the Consultant Review Board for an emergency repair to minimize further degradation of both the Emergency Spillway and the Service Spillway of the 770-foot-high, high-hazard Oroville Dam.

Calero Dam Seismic Retrofit Project, San Jose, CA, Santa Clara Valley Water District. Senior Technical Reviewer in leading the geotechnical and geologic tasks for the design of the seismic retrofit for Calero Dam.

The project involved constructing a downstream stability buttress, raising the crest of the main and auxiliary dams, and constructing a new sloping intake and outlet tunnel. The firm coordinated and oversaw the drilling and rock-coring program for the entire project. The investigation included both land-based and over-water drilling using mud-rotary and rock-coring methods. Extensive downhole geophysics was performed to characterize the rock mass for the design of the new outlet tunnel, buttress foundation excavation, and on-site borrow areas. The project scope included preparing the geotechnical data report that supported the basis of design for the project. The work also included performing a seepage analysis, dynamic response analysis, and slope stability/deformation analyses to support the design of the new downstream buttress, filters and drains, and crest raise.

New Bullards Bar Dam, Log Cabin and Our House Dams, Ground Motions for Seismic Stability Evaluations, Yuba County, CA, Yuba Water Agency. Principal-in-Charge and Project Manager for a deterministic ground motions study of a 600-foot-high concrete arch dam and two smaller gravity dams using seismic sources characterized by a geologist. Tasks included developing deterministic spectra, selecting and matching acceleration time histories for use in the structural evaluations.

Seismic Stability Evaluation of Hell Hole and L.L. Anderson Dams, Placer County, CA, PCWA. Principal-in-Charge for the updated ground-motions evaluation and stability analyses of two large rockfill dams in the Sierra foothills. The reevaluation was performed in response to recommendations in the FERC Part 12D report. The work included static, seismic, and rapid drawdown slope stability analyses. The seismic response and permanent deformations within the embankment were estimated using two-dimensional (2D) FE analyses, which showed that the embankments would perform adequately under the design seismic loading conditions.

Seismic Stability Evaluation of Santa Felicia Dam, Ventura County, CA, United Water Conservation District. Principal-in-Charge for the seismic evaluation of an existing earthfill dam. The analysis involved updating the ground motions and material strength properties in response to comments from the FERC Part 12D report. The analysis included a simplified seismic stability evaluation and estimates of earthquake-induced deformations.

Scott Dam Left Abutment Evaluation, Mendocino County, CA, Confidential Client. Principal-in-Charge for a seismic slope stability evaluation and sensitivity analysis of the left abutment slope of a large concrete gravity dam. The work was developed to respond to a FERC Part 12D recommendation that portions of the left abutment slope be reestablished to their pre-1972 configuration and the slope be evaluated for seismic instability given observed, long-term creep displacements in the downslope direction.

Lake Isabella Dams, Kern County, CA, USACE, Sacramento District. Member of a Joint Venture Team providing support for safety evaluation studies for two dams on Lake Isabella. The assessment involved field investigations, geologic fault studies, seepage analyses, liquefaction assessments, seismic deformation, and stability analyses of the embankments and outlet structures; PFMA; and evaluation of alternatives for remediation of seismic, hydraulic, and seepage deficiencies.

Anderson and Guadalupe Dams, Santa Clara County, CA, Santa Clara Valley Water District. Principal-in-Charge of geologic and geotechnical studies to assess the potential for fault rupture, make ground-motions estimates, and determine the seismic stability of two embankment dams, including evaluation of the conceptual design of remedial measures.

Seven Oaks Dam, San Bernardino, CA, USACE, Los Angeles District. Principal-in-Charge for evaluation of seismic stability of a 600-foot-high earthfill and rockfill dam. Served on a Technical Advisory Board during design and construction.



DINA HUNT, PE

Available SME: Seismic Hazards

Years of Experience:

19

Education:

BS, Civil and Environmental Engineering, University of California, Berkeley, 2004

MS, Civil and Environmental Engineering, University of California, Berkeley, 2006

Registrations:

Professional Engineer in California (Civil) - No. 75643, WA

Dina is an industry expert with 19 years' experience in the development of seismic design parameters for application to all components of water resources and hydro-infrastructure projects. Dina has performed seismic hazard analyses for more than 30 dams and hydroelectric projects. Dina's areas of expertise include site specific seismic hazard evaluations using both probabilistic and deterministic approaches, as well as developing time histories. Her relevant experience also includes conducting advanced seismic hazard analyses, in depth knowledge of seismic codes, design guides, and research experience in seismology.

Relevant Projects

Dam Safety Engineering Services, Beverly, WA, GCPUD. Lead Seismic Hazard Engineer assisting with the seismic stability analysis of concrete structure and earthen embankments for the Priest Rapids Hydroelectric Project, which consists of the Wanapum and Priest Rapids Dam. Tasks included developing a design response spectra for each dam site using updated ground motion models and field measurements of shear wave velocity. Additional responsibilities included developing a suite of scaled time series for the liquefaction risk analysis for the embankment dam at Wanapum. Several time series were developed for half magnitude bins ranging from a magnitude 5.0 to 9.0 for both the subduction zone and crustal events.

Part 12 Dam Inspections, Milner Dam – Hydro Power Plant Generation, Boise, ID, Idaho Power Company (IPC). Earthquake Hazard Engineer performing a review of the seismic design parameters for Milner Dam and provided recommendations based on FERC guidelines. Also authored sections of the consultant safety inspection report, with input to the Dam Safety Surveillance and Monitoring Plan.

Part 12 Dam Inspections, CJ Strike Dam, Boise, ID, IPC. Earthquake Hazard Engineer performing a review of the seismic design parameters for CJ Strike Dam and provided recommendations based on FERC Guidelines. Also authored sections of the consultant safety inspection report, with input to the Dam Safety Surveillance and Monitoring Plan.

Gross Dam Seismic Review, Denver, CO, City and County of Denver. Geotechnical Earthquake Hazard Engineer/Project Technical Lead performing the site-specific seismic hazard analysis. Gross Dam is proposed to be raised to increase the water storage in the reservoir. Gross Dam is located near the continental divide, which leads to complication in the selection and weighting of ground motion prediction equations. At the current time, there is a lack of research in the selection and weighting of ground motion prediction equations for those projects located near the transition between the western and central and eastern United States. Experts in the field of seismic hazard were included to help resolve this issue.

Hells Canyon Developments – FERC Part 12 Inspections, Various Locations in ID, IPC. Lead Seismic Hazard Engineer performing a probabilistic and deterministic seismic hazard assessment for the Brownlee, Oxbow, and Hells Canyon Dams along the Snake River between Idaho and Oregon. The Hells Canyon Complex is regulated by FERC.

Santa Felicia Dam – Part 12D Safety Inspection Report, Santa Paula, CA, United Water Conservation District. Earthquake Hazard Engineer performing a review of the seismic design parameters for Santa Felicia Dam. Provided recommendations based on FERC guidelines and authored sections of the consultant safety inspection report, with input to the DSSMP.

Boundary Dam Evaluation, Seattle, WA, City of Seattle. Lead Seismic Hazard Engineer performing a probabilistic and deterministic seismic hazard assessment along with the development of three spectrally matched 3-component time histories for use in structural modeling. The Boundary Dam is a 340 foot tall arch dam regulated by FERC.

Alder and LaGrande Dams – Seismic Hazard Analysis, Various locations in WA, City of Tacoma. Project Manager/Seismic Hazard Engineer performing a probabilistic and deterministic seismic hazard assessment for Alder and La Grande Dams. Both dams are regulated by FERC and are subjected to earthquake hazards from a crustal seismicity and the Cascadia subduction zone.

Morris Sheppard Dam Concrete Assessment and Service Life Extension, Palo Pinto County, TX, Brazos River Authority. Seismic Hazard Engineer evaluating the seismic hazard of Morris Shepard Dam from induced seismicity following published reports by the USGS and the TexNet Seismic Monitoring Program.

Oroville Dam PFMA Workshop, Oroville, CA, CA DWR. Seismic Hazard SME for a FERC L2RA workshop. The project involves a SQRA workshop for the Oroville Dam the tallest dam in United States and its appurtenant structures.

Mayfield and Mossyrock Dams - Seismic Hazard Analysis, Various Locations, WA, City of Tacoma. Project Manager/Seismic Hazard Engineer performing a probabilistic and deterministic seismic hazard assessment. The work included the development of time histories to evaluate the performance of the dams under seismic loading. Both dams are regulated by FERC and are subjected to earthquake hazards from a crustal seismicity and the Cascadia subduction zone. Three component time histories were developed for each dam for use in structural modeling.

Dam Safety Seismic Hazard Assessment, Various Locations in HI, State of Hawaii, Department of Land and Natural Resources. Seismic Hazard Engineer performing site-specific probabilistic seismic hazard assessments for more than 70 high hazard dams for the Hawaii Department of Land and Natural Resources. Working alongside the USGS to update the National Seismic Hazard Maps in Hawaii.

Dam Safety Review Services, Honolulu, HI, State of Hawaii. Earthquake Hazard Engineer assisting in the review and proposed updates to the Hawaii Safety Guidelines, Seismic Analysis & Post Earthquake Inspections – Circular C131. Recent earthquake events in Hawaii, such as the 2006 Kiholo Bay Earthquake was studied by several researchers and increased the understanding of the seismic hazard in Hawaii. These references along with other updated documents were included in the revised Hawaii Safety Guidelines for Seismic Analysis & Post Earthquake Inspections.

Dam Safety 101 Seismic Hazard Training Course Presentation, Seismic Hazard Workshop, Tacoma, WA, City of Tacoma – Tacoma Public Utilities. Seismic Hazard Engineer preparing and instructing a day and a half workshop at Tacoma Power for engineers. The workshop was performed to teach engineers how seismic hazard studies are performed for large dams. Topics that were covered during the workshop are seismic source characterization, ground motion models, probabilistic and deterministic analyses, shear wave velocity, uncertainty and variability, and development of time histories. Representatives from the FERC and Seattle City Light (SCL) also participated in the workshop.



GREG RICHARDS, PE, CFM

Available SME: Hydrology and Hydraulics

Years of Experience:

17

Education:

BS, Civil Engineering,
Utah State University,
2008

MS, Civil and
Environmental
Engineering, Utah
State University, 2009

Registrations:

Professional Engineer
in UT and CO

ASFPM Certified
Floodplain Manager
(CFM): Association
of State Floodplain
Managers, Inc. -
No. US-11-06073

Considered an H&H expert in the hydroelectric industry, Greg brings 17 years of specialized expertise conducting and overseeing research and investigations and developing designs and modeling for the execution of water resource and engineering projects related to hydraulic structures, including dams and flood control reservoirs, headworks, culverts, drainage channels, outlet works, stilling basins; stream channel and watershed improvements; and bridges. He maintains knowledge of current industry best practices, policies, and criteria and is proficient in the use of USACE HEC-1, HEC-2, HEC-RAS (1D and 2D), and HEC-HMS software; Esri's ArcGIS suite and ArcView applications; AutoCAD; and MathCAD, as well as the development of in-house computer programs for water resource engineering applications. In addition, Greg has performed inspections and assessments of hundreds of dams across the country. He has also completed 10+ EAPs, 100+ dam break or incremental damage analyses with inundation mapping, and dozens of scour analyses.

Relevant Projects

EAP Services for Beardsley, Donnells, Goodwin and Tulloch Dams, Strawberry, CA, Tri-Dam Project. Project Manager for the completion of EAP services for the Tri-Dam Project's FERC-regulated facilities including Tulloch Dam, Beardsley Dam, Donnells Dam, and Goodwin Dam. Services included planning and facilitation of a Tabletop and Functional Exercise Series, dam breach analyses and preparation of inundation mapping, and a re-write of the EAP. A detailed HEC-RAS hydraulic model of the Stanislaus River from its confluence with the San Joaquin River to Donnells Lake on the Middle Fork Stanislaus River was developed to estimate breach inundation extents. In addition to complying with FERC regulations, all deliverables were prepared in accordance with recent changes in State of California requirements for EAPs and inundation maps as required by Senate Bill 92. Breach analyses and mapping included failure of both the main dam structures and critical appurtenant structures.

Geotechnical Services, H&H Analysis for Natural Gas Line Site, Western U.S., Confidential Client. H&H Engineer for oversight and detailed review of H&H analyses. A portion of the pipeline traverses a drainage channel and is experiencing erosion at the pipeline supports, compromising the pipeline stability. Our firm was tasked to perform H&H analyses to assist engineers in understanding the erosion. Analyses included estimation of peak frequency flows using the rational method and development of a 2D HEC-RAS hydraulic model of the drainage channel. A technical memorandum was prepared that summarizes the H&H analyses as well as an assessment of stream stability.

HEC-HMS and HEC-RAS Technical Seminar, Virtual, ASDSO. Co-Instructor for two technical seminars sponsored by ASDSO: HEC-HMS and HEC-RAS. The HEC-HMS course focused on hydrologic computations for dam safety using the USACE's Hydrologic Modeling System. The HEC-RAS course provided instruction in one-dimensional (1D), steady, and unsteady numerical hydraulic modeling of floodplains, bridges, culverts, and other hydraulic structures with a focus on applications for dam safety. ASDSO plans to continue to offer these courses annually on an alternating basis.

H&H Support Services, Various Locations, Western U.S., Confidential Client. Project Manager and H&H Engineer providing professional consulting engineering services, on an as-needed basis, through a Master Services Agreement for engineering, procurement, testing, startup, outage, and program management services. For this assignment, we are providing H&H review and coordination of ongoing dam safety projects as part of a spillway assessment and inspection program. We have also developed hydrologic hazard curves for multiple reservoirs using the USACE's reservoir frequency analysis software.

Upper Main Canal Rehabilitation Assessment, Turlock, CA, TID. H&H Engineer completing peer review of design plans and specifications. TID operates the Upper Main Canal system which conveys water approximately 8.7 miles from the Tuolumne River at La Grange to Turlock Lake, from which stored water is then distributed to downstream users. The State of California Department of Transportation (Caltrans) intends to install rock slope protection to protect the footing of the Highway 132 fixed-arch bridge crossing of the canal. The District requested that our firm perform a review of the 95 percent design drawings of the proposed scour protection design concept, primarily focused on identifying potential adverse impacts of the scour protection measures to the local flow characteristics of the Upper Main Canal. A technical memorandum summarizing review findings and recommendations to improve the design was prepared.

Bridge/Culvert Replacement Engineering Services, Dauphin, Perry, Cumberland, and York Counties, PA, Pennsylvania Department of Transportation, District 8. Task Manager for completion of detailed H&H analyses and design for seven bridges and culverts throughout Dauphin, Perry, Cumberland, and York Counties. The project included performing a hydrologic analysis of the watershed of the respective streams. Hydraulic analyses were then completed using the HEC-RAS computer model to investigate flooding conditions near the structures. These models were used to evaluate the sizing of the proposed structures, estimate scour, size riprap, and identify temporary and permanent flooding impacts. Also performed a detailed technical review of H&H analyses and designs completed by subconsultants for 12 additional bridges.

Dam and Levee – Architect/Engineering Services, IEPR Rio de La Plata Dorado Bridge Channel Widening and Scour Protection, Dorado, PR, USACE – Louisville District. H&H Engineer performing an IEPR of a USACE flood control project along the Rio de La Plata in Dorado, Puerto Rico. The effort included detailed review of plans, specifications, a HEC-RAS hydraulic model, hydraulic design report, and other miscellaneous calculations related to the design. The project included widening the existing river channel, constructing levees, and installing channel armoring and other features to protect against scour.

Construction Consultation Services, Shrewsbury, PA, Pennsylvania Department of Transportation, District 8. H&H Engineer responsible for the completion of H&H analyses for the reach of Deer Creek near I-83, exit in the Borough of Shrewsbury, York County, Pennsylvania. The project included the replacement of an existing 432-foot-long, 12-foot-diameter corrugated aluminum culvert with a 480-foot-long, 12-foot by 10-foot reinforced concrete box culvert. In addition to preparation of the hydraulic model, tasks included hydrologic calculations, riprap sizing calculations, and preparation of a summary report to support the design. This project was in a detailed Federal Emergency Management Agency (FEMA) floodplain and floodway.



ROBERT KLINE, JR., PE

Available SME: Hydraulic Structures

Years of Experience:

37

Education:

BS, Civil Engineering,
The Pennsylvania
State University, 1986

Registrations:

Professional Engineer
in California (Civil) -
No. C-59534, PA, VA,
OH, CO, WA, OR

Bob serves as the Deputy Manager for the Dams and Hydraulics Section and is responsible for development of technical aspects of projects as well as associated project management duties. He has served as an IC for FERC regulated hydroelectric projects. Related experience includes PFMA, developing STIDs, reviewing and developing DSSMPs, Part 12D dam inspections and repair designs. Bob served as an instructor for a three-part series on concrete dams for the ASDSO webinar education series and has published several technical papers on concrete dams and other aspects on dam engineering. He also served as Engineer of Record for NID's Combie Dam Alternatives Analysis.

Relevant Projects

Combie Dam AACD, Nevada County, CA, NID. Engineer of Record for the development of conceptual alternatives to improve structural stability, prevent foundation rock erosion within the spillway and increase hydraulic capacity of the existing outlet works for the 100-foot-high concrete arch dam with a generating capacity of 2 MW.

Leaburg-Waltermville Dam Safety Engineering Services, Waltermville, OR, Eugene Water & Electric Board. Project Principal overseeing engineering analyses and field investigations services for the FERC-regulated Waltermville Development. Work included hydraulic capacity and structural stability evaluations of the Waltermville siphon spillway and assessment of the canal concrete lining system.

Priest Rapids Dam, Beverly, WA, GCPUD. Principal Engineer completing a root cause analysis for a disbonded horizontal lift joint detected near the base of a 1,100-foot-long gated concrete spillway. Also acted as engineer-of-record (EOR) for construction plans and specifications for stability improvements for the concrete spillway that consist of installing 38 high-capacity rock anchors. Construction start is planned in the year 2023. The 10,000-foot-long dam on the Columbia River has a generating capacity of 953 MW.

Castaic, Crafton Hills, and Perris Dams, Los Angeles, CA, CA DWR. Board Member for a 10-year term as a part of the four-member dam safety review board for providing technical oversight and guidance to the CA DWR for the operation, maintenance, and dam safety improvements to three large dams that provide municipal water supply to the greater Los Angeles area as part of the State Water Project. The three dams, completed between 1974 and 1999, range in height from 95 to 340 feet, range in crest length from 1,000 feet to two miles, and range in storage capacity from 300 to 325,000 acre-feet.

Rocky Reach and Rock Island Dams, Chelan County, WA, *Chelan County Public Utility District.*

Hydraulics and Concrete Dams SME for the Part 12D inspection of two large dams on the Columbia River with a combined generating capacity of 1,924 MW. Responsibilities included conducting a site visit and inspection, reviewing the potential failure modes analysis, evaluating instrumentation data, reviewing supporting technical information, and preparing a report.

Dam Safety Program, Newport News, VA, *Newport News Waterworks.* Engineering Manager for the management of the client's dam safety program. Tasks include performing dam safety inspections and preparing reports, as well as preparing operation and maintenance certificate renewal applications and EAP updates for each of the six dams, as needed, to comply with Virginia Department of Conservation and Recreation regulations.

McCloud Dam Spillway Improvements, Siskiyou County, CA, *Confidential Client.* Project Director overseeing preliminary engineering investigations and development of alternative remedial measures to increase spillway capacity for the recently updated PMF estimate. McCloud Dam is a 255-foot-high, central earth core, compacted, earth and rock-fill structure with a gated concrete lined chute spillway.

Ralston Afterbay Dam, Placer County, CA, *PCWA.* Co-IC for the Part 12D inspection of an 89-foot-high concrete gravity dam with a generating capacity of 224 MW. Responsibilities include conducting a site visit and inspection, reviewing the potential failure modes analysis, evaluating instrumentation data, reviewing supporting technical information, and preparing a report.

Beaverdam Creek and Goose Creek Dams – Master Plan Study and Dams Operation, Ashburn, Loudoun County, VA, *Loudoun Water.* Engineering Manager for assisting with project management, conducting annual dam safety inspections, maintaining operating certificates for compliance with state dam safety regulations, conducting a public safety hazard and security assessment, preparing associated reports and recommendations, and providing preliminary, final design, and construction management services to rehabilitate the Beaverdam Creek Dam. Also assists in supervising a safe yield analysis of a complex water supply and storage system as part of a master planning study.

DeHart Dam Assessment and Conceptual Design, Dauphin County, PA, *Capital Region Water.* Engineering Manager for dam engineering services to assess DeHart Dam and its appurtenances, identify dam safety deficiencies, and develop conceptual design alternatives to address deficiencies. Investigations revealed that the spillway capacity is not sufficient to pass the required spillway design flood and that embankment modifications may be necessary to improve seepage collection and slope stability. Conceptual design alternatives were developed, and geotechnical subsurface investigations to support preliminary design were completed.

Puddingstone Dam Spillway Condition Assessment, Los Angeles County, CA, *Los Angeles County of Public Works.* Civil Engineer for condition assessment of the 140-foot-tall earth embankment Puddingstone Dam emergency spillway. Puddingstone's emergency spillway consists of an ogee crest and a 1,100-foot-long multi-section concrete spillway. The scope of work included document review; preparing a detailed work plan; assessing the condition of the concrete lining; performing a ground penetrating radar (GPR) survey along the spillway slab and vertical walls; performing an audible response to a hand-operated concrete delamination detection device; concrete coring at locations of suspected voids; evaluating the drainage system, including closed-circuit television (CCTV) inspection of drains; evaluating the concrete slab for undermining and hydraulic jacking including hydraulic calculations; evaluating cavitation, hydraulic jacking, and foundation erosion potential, including characterizing foundation materials; evaluating stability of riprap at the end of the spillway; comparing spillway features to modern practice; and preparing a spillway condition assessment report.



GUY LUND, PE

Available SME: Concrete Dams

Years of Experience:

41

Education:

BS, Civil Engineering,
Colorado State
University, 1982

MS, Civil Engineering,
University of
Colorado, Denver,
1990

Registrations:

Professional Engineer:
California (Civil) –
No. 90252, CO, ID,
NM, UT, TX, WA, NY,
MT, PA, WV, VA, OH

Guy Lund, PE has nearly four decades of experience in dam safety, design, analysis, inspection, and construction. He has been approved as an IC for 30 FERC regulated Hydroelectric Projects. His dam engineering experience includes hydraulic design, structural design of spillways, outlet works, and appurtenant structures, comprehensive structural analyses of concrete dams (static and dynamic analyses using both linear and non-linear methodologies), field investigations, construction inspection observation, final design drawings and contract documents. Guy's experience includes many FERC Projects, which have included preparing potential failure modes (PFMs) and develops numerous PFMA Reports, developing STIDs, reviewing and developing dam safety surveillance and monitoring programs (DSSMP), structural evaluations, field investigations, and board of consultants.

Relevant Projects

Dam Safety Engineering Services, Beverly, WA, GCPUD. Structural SME for this on-call services contract valued at \$350,000 with opportunity to increase for dam safety engineering support encompassing geotechnical, seismological, structural, and hydrologic/hydraulic engineering service, investigations, analyses, and design work. Services requested to date have included 2D seismic structural stability analyses of the Priest Rapids Hydroelectric Project, which includes Priest Rapids and Wanapum Dams on the Columbia River and coordination with FERC regarding project-specific tasks, such as Part 12 Safety Inspections.

Wanapum Dam Spillway Consulting Services, Beverly, WA, GCPUD, District 2. Chairman of the BOC for emergency repairs for this project located on the mainstream of the Columbia River in south central Washington. During an inspection in February 2014, significant crest deflections were observed for the pier on Monolith 4. The GCPUD initiated evaluation of the reservoir and established a BOC.

Cheesman Dam Analysis, Jefferson County, CO, Denver Water. Senior Structural Engineer responsible for preparing the analysis of a 234-foot-high cyclopean masonry gravity arch dam located on the South Fork of the South Platte River approximately 54 miles south-southwest of Denver, Colorado. The dam was evaluated for static and dynamic loading conditions. Duties included performing numerous trial-load analyses to determine the most-severe loading conditions on the dam and preparing three-dimensional (3D) FE models to study the dam's behavior under the previously defined severe loading conditions. The stresses from the FE model, near the dam/foundation contact, were transformed to determine the thrusts acting on the foundation. These thrusts were then used in stability calculations of foundation abutments.

Indefinite Delivery Contract (IDC) National Dam Safety Engineering and Design Services, Folsom Dam Modifications, Folsom, CA, USACE, Huntington District. Structural SME conducting an independent review of a numerical analysis of the main gravity dam and spillway that was performed to evaluate the behavior under seismic loading conditions using the computer program ABAQUS.

Pit-3 Dam Project, Shasta County, CA, Confidential Client. Senior Structural Engineer responsible for the structural stability analysis of this 84-foot-high, 495-foot-long concrete gravity arch dam. Performed a non-linear FE analysis to evaluate the structural capacity of the concrete dam and the stability of the monolithic blocks; computed a sliding factor of safety in accordance with current FERC dam safety guidelines.

Hydropower Technical Services, FERC Risk Informed Decision-Making Pilot Project, Rhinedollar Dam, Rosemead, CA, Southern California Edison Company. Civil/Structural SME supporting the risk informed decision making pilot for Rhinedollar Dam, a concrete-faced rockfill dam in the high Sierras of California. Reviewed the structural aspects of the concrete facing element on the upstream slope of the rockfill dam.

Matilija Dam, Ventura County, CA. Principal Engineer responsible for the structural stability analysis of this thin, variable-radius concrete arch dam located on Matilija Creek approximately 5 miles northwest of Ojai, California. An updated stability evaluation was performed on the dam, taking into effect continued deterioration of the concrete due to alkali-silica reactivity, increased seismic forces, and elevated sediment loads against the dam. Studies were used to estimate the safety of the project for current conditions (cc. 2010) and future conditions (cc. 2020 and 2035).

Early Intake Dam, Tuolumne County, CA. Principal Structural Engineer responsible for the structural analysis of this concrete thin arch dam on the Tuolumne River about 10 miles downstream from Hetch Hetchy Reservoir and 20 miles east of Sonora, California. The dam consists of a thin single-curvature concrete arch structure with a constant radius of 100 feet. The arch is 262 feet long and has a maximum structural height of about 81 feet. Performed structural analysis using the 3D FE method. Also evaluated the potential for rock scour due to overtopping of the dam. The purpose of the analysis was to verify that the dam could safely support the assumed loading conditions.

Bliss Hydroelectric and Lower Salmon Hydroelectric Project FERC Part 12D IC Services, ID, IPC. IC responsible for the safety assessment for the FERC Part 12D 5-Year Consultant Safety Inspection Report (CSIR). Responsibilities included reviewing existing documentation and reports, performing a site inspection and assessment, conducting a review workshop of the PFMA, and preparing a CSIR.

Gross Dam Reservoir - BOC Participation, Expansion Project, Denver, CO, Denver Water. BOC Member participating in workshops, providing IC review, and preparing reports related to the design and construction of the project. The project consists of raising the existing concrete arch dam by 131 feet, from 340 feet to 471 feet. When complete, the reservoir will store nearly 119,000 acre feet of water, up from 42,000 acre feet.

Lake Rush and Lake Jed Johnson Dams Stability Analyses, Comanche County, OK, U.S. Fish and Wildlife Service. As Structural Engineer, assisted in performing stability analyses on Lake Rush and Lake Jed Johnson Dams, two high-hazard, concrete gravity dams. Tasks included performing a site visit to assess the integrity of the dam and surrounding area and evaluate the toe of the dam for scour, providing expert technical guidance for the performance of the stability analyses, and performed a quality control review of the results of the analyses.



DEAN DURKEE, PHD, PE

Available SME: Risk Assessment

Years of Experience:

33

Education:

BS, Civil Engineering,
Colorado State
University, 1990

MS, Geotechnical
Engineering,
University of Rhode
Island, 1992

PhD, Geotechnical
Engineering, Colorado
State University, 2000

Registrations:

Professional Engineer
in California (Civil) -
No. C58457, AZ, TX,
WY, HI, MT, SD, OK,
CO, OR, ID

Dean Durkee, PhD, PE, has more than three decades of engineering experience as a geotechnical and dam safety engineer, with a primary focus on dam and flood control projects. He is FERC-approved for both Part 12D IC and to serve as PFMA and Risk Analysis Facilitator and currently serves as Lead Facilitator for four of FERC's RIDM Pilot Projects. His expertise includes evaluating and designing new dams and developing rehabilitation and modification designs for existing dams and he regularly conducts dam owners safety and training seminars for the NRCS sponsored by ASDSO. Over the last 10 years, he has focused his professional career on the application of risk-based dam safety services, both as a participant in and as a facilitator for PFMA's, failure modes and effects analyses, and risk analyses, both semi-quantitative and quantitative, for more than 35 dams.

Relevant Projects

FERC L3RA, Wanapum Dam, Beverly, WA, GCPUD. Lead Facilitator for Risk Informed Decision-Making project at Wanapum Dam. Risk workshops were performed using the FERC Chapters 17 and 18 for performing L3RA was performed using SQRA methodologies, considering seismically induced, flood, and normal operating conditions PFMs. The principal water retaining structures of Wanapum Dam include left and right earth embankment sections, left and right concrete gravity dams with upstream fish ladders and associated facilities, a reinforced concrete spillway with 12 radial gates, a trash sluice, a ten-unit powerhouse including generator hall and erection bay, and a future unit intake section that was constructed to accommodate six additional generating units (these were never constructed). In all, the total length of Wanapum Dam is 8,637 ft. The maximum height from deepest excavation to the intake deck of the dam is about 186.5 ft. All major concrete structures are founded directly on bedrock.

FERC RIDM Pilot Project, Don Pedro Dam, Turlock, CA, TID. Lead Facilitator for the pilot RIDM project at Don Pedro Dam. Risk workshops were performed using SQRA, considering seismically induced, flood, and operating conditions as PFM. Don Pedro Dam is part of the New Don Pedro Hydroelectric project located in Tuolumne County along the Tuolumne River. The reservoir is formed by the main Don Pedro Dam and three smaller embankments (Dikes A, B, and C). Don Pedro Dam is a zoned earth and rockfill structure approximately 585 feet tall and 1,900 feet long. Dikes A, B, and C are constructed in low saddles on the reservoir rim. The release of floodwater from the reservoir is provided by a gated (primary) spillway and an ungated (emergency) spillway.

Swan Falls and CJ Strike Hydroelectric Projects, Boise, ID, IPC. IC for CJ Strike Dam 12D inspection. The twelfth Part 12D inspection included developing the STID, conducting a review workshop of the PFMA, and preparing a CSIR, with input to the DSSMP.

Hells Canyon Developments – FERC Part 12 Inspections, Brownlee Dam, Boise, ID, IPC. Part 12D IC for Brownlee Dam. The eleventh Part 12D inspection included developing a STID, conducting a review workshop of the PFMA, and preparing a CSIR, with input to the DSSMP.

Fifth Part 12D Inspection, Milner Dam, Boise, ID, IPC. Part 12D IC for Milner Dam in Idaho. The Part 12D inspection included developing a STID, conducting a review workshop of the PFMA, and preparing a CSIR, with input to the DSSMP.

Eleventh Part 12D Inspection, CJ Strike Dam, Boise, ID, IPC. Part 12D IC for CJ Strike Dam in Idaho. The eleventh Part 12D inspection included developing a STID, conducting a review workshop of the PFMA, and preparing a CSIR, with input to the DSSMP.

Santa Felicia Dam - Part 12D Safety Inspection Report, Santa Felicia, CA, United Water Conservation District. Part 12D IC for Santa Felicia Dam in California. The eleventh Part 12D inspection included developing a STID, conducting a review workshop of the PFMA, and preparing a CSIR, with input to the DSSMP.

First Part 12D Inspection, Bigfork Hydroelectric Facility, Bigfork, MT, PacifiCorp. IC for PacifiCorp's 2016 CSIR for the Bigfork Hydroelectric Facility, in Bigfork, Montana. The Bigfork Hydroelectric project consists of a diversion dam across the Swan River that diverts water to an approximately one-mile-long conveyance and ultimately to a concrete forebay structure where water is directed to three penstocks serving three separate turbine power generators at the Bigfork Powerhouse. Tasks included overall inspection, management of other technical specialists involved in the inspection, participation in the PFMA as the IC, and preparation of the PFMA and CSIR reports.

Hells Canyon Developments – FERC Part 12 Inspections, Brownlee Dam, Boise, ID, IPC. Part 12D IC for Brownlee Dam. The eleventh Part 12D inspection included developing a STID, conducting a review workshop of the PFMA, and preparing a CSIR, with input to the DSSMP.

FERC RIDM Pilot Project, Leaburg Canal, Lane County, OR, EWEB. Lead Facilitator for the pilot RIDM project at the Leaburg Canal Embankment near Eugene, Oregon. Risk workshops are being conducted using SQRA considering overtopping, stability, erodibility, liquefaction, and seepage-induced erosion potential failure modes. Leaburg Canal Embankment is part of the Leaburg-Walterville Hydroelectric project and consists of a nearly 100-year-old canal embankment, diversion intake structure, spillway, wasteway, fish hatchery, forebay, and penstock structures. Also coordinated, managed, and facilitated the SQRA and reviewed subsequent reports.

FERC RIDM Pilot Project, Yelm Power Canal, Centralia, WA, City of Centralia. Lead Facilitator for the pilot RIDM project at the Yelm Power Canal. Risk workshops were performed using SQRA, considering overtopping, stability, and erodibility PFMs. The Yelm Hydroelectric project is located along the Nisqually River. The canal and power generating facilities are owned and operated by the City of Centralia, WA. The project consists of a concrete diversion dam, two intake structures, fish screen, 9.1-mile-long earthen canal, three spillways, forebay, gatehouse, two penstocks, powerhouse, and transmission lines.

Focused SQRA, Yale Dam Spillway, Portland, OR, PacifiCorp Energy. As Lead Facilitator for focused risk analysis of the Yale Dam Spillway, used draft risk-informed decision-making guidelines for SQRA (Level 2). Focused on potential failure modes associated with the spill chute including the concrete slab and walls and foundation erosion and headcutting. Project included coordinating the risk analysis workshop, facilitating the workshop, and reviewing the final risk analysis report.



SYED UL HAQUE, PE

Available SME: General Civil/Structural

Years of Experience:

15

Education:

BS, Civil Engineering,
California State
Polytechnic University,
Pomona, 2007

Registrations:

Professional Engineer
in California (Civil) –
No 77661

Having worked on more than 50 construction and design projects based in California, including the Lake Alamnor Dam, Storage Dam, and Butt Valley Spillway Repairs, Syed has a superior understanding of Western geography and dam spillways. He has performed as Design Engineer, Lead Designer, and EoR on numerous projects that include hydraulic structures and steel and concrete design. Syed's design experience includes reinforced concrete, structural steel, temporary/permanent excavation support, anchored retaining walls, MSE retaining walls, slope stabilization, and rockfall mitigation for projects with remote access and difficult terrain.

Relevant Projects

Open-End Engineering Services, Placer County, CA, PCWA. Project Engineer performing structural evaluation of existing PCWA facilities; civil/structural engineering design for capital improvements and facility maintenance/upgrades; review of draft documents prepared by PCWA and/or other consultants; preparation of technical memoranda and reports as directed by PCWA; and as-needed technical consultation to PWCA. Assignments may require site reconnaissance; engineering analysis and design; preparation of construction drawings and technical specifications; preparation of technical reports; as needed technical support during construction; and preparation of "as-built" documents.

Warm Springs Dam Spillway Assessment & Evaluation, Sonoma County, CA, USACE Risk Management Center (RMC). Project Civil Engineer collected information and documented the spillway condition specific to the condition of the concrete for the USACE Sacramento District. This effort provided comprehensive visual assessment of the concrete, and collected new non-destructive testing data to be used in future dam safety risk assessments and future remedial designs if necessary. Warm Springs Dam is a 319-foot-tall earth dam.

Folsom Dam Intersection, Sacramento County, CA, U.S. Bureau of Reclamation. Design Engineer for soil nail walls and abutment bearing pads for the grade separation structure proposed at the intersection of the Folsom Dam Spillway Haul Road (Haul Road) and Folsom Point Road. The soil nail walls were approximately 20 feet in height and extended approximately 75 feet in either direction from the centerline of the proposed bridge on Folsom Point Road. Additionally, structural cast-in-place concrete bearing pads were required to support the installation of a HS20 traffic-rated bridge above the Haul Road cut. Specific responsibilities included construction observation and testing of soil nail retaining walls on both sides of Folsom Point Haul Road; and designing cast-in-place concrete bridge abutments that were constructed behind the retaining walls.

Lake Almanor Dam Spillway Repairs, Plumas County, CA, Confidential Client. Project Manager preparing technical specifications/standard repair details for patching, repair chute slab concrete to restore cover over exposed reinforcement, seal/repair joints, remediate delamination & fill voids, and identify/map concrete repair locations in field.

Storage Dam Spillway Repairs, Western U.S., Confidential Client. Project Manager preparing technical specifications/standard repair details for patching, repair chute slab concrete to restore cover over exposed reinforcement, seal/repair joints, remediate delamination and fill voids, and identify/map concrete repair locations in field. Providing input for work plan for Contractor to perform video inspection of tile drain pipes upstream through spillway chute toe cutoff wall, chute sidewall weep holes to examine conditions and evaluate the extent of possible voids/damage related to the storage dam spillway.

Halsey Forebay Dam, Placer County, CA, Confidential Client. Design Engineer for the engineering assessment, design, and construction support services for the Halsey Forebay Dam No. 1 Seepage Mitigation Project. The project objective was to address ongoing seepage issues through the right groin of the earth embankment dam. The project included overlaying the existing concrete-lined spillway with new 4.5-inch thick, "water-tight" shotcrete liner; constructing a seepage mitigation berm, subdrain system, and measurement weir at the right abutment; and grading and drainage improvements to adequately direct surface water to suitable facilities away from the dam. Specific responsibilities included construction observation of the subdrain system.

Pit 5 Diversion Dam, Shasta County, CA, Confidential Client. Design Engineer conducting alternatives analyses and providing engineering consulting services related to ongoing erosion of the river banks immediately downstream of the concrete wing walls at the Pit 5 Diversion Dam. Evaluated alternatives to address both mid-term and long-term objectives as requested by FERC. The feasibility studies included means to establish access to the north and south banks downstream of Pit 5 Dam for closer observation of the ongoing erosion and to place appropriate retaining/scour resistant materials, as necessary. Specific responsibilities included layout and preliminary engineering for mid-term and long-term alternatives.

Creek Diversion Dam Improvements, Western U.S., Confidential Client. Project Manager overseeing geotechnical, structural, and electrical/mechanical components for a creek diversion dam improvements project to improve fish passage downstream of the dam, improve diversion flow into the tunnel intake, improve sediment removal within the reservoir, and meet regulatory waterflow requirements.

Butt Valley Spillway Repairs, Plumas County, CA, Confidential Client. Project Manager preparing technical specifications/standard repair details for patching, repair chute slab concrete to restore cover over exposed reinforcement, seal/repair joints, remediate delamination and fill voids, and identify/map concrete repair locations in field.

Cosumnes River Granlees Dam, Sacramento County, CA, Fishery Foundation of California. Design Engineer for a retrofit project to improve fish passage on an existing cast-in-place (CIP) concrete, pool-and-weir fish ladder by adding additional pools on the downstream end of the existing structure and by increasing the spillover elevation of each of the existing weirs. Coordinated with Northwest Hydraulic Consultants, Inc. (NHC), who acted as the prime consultant and hydraulic engineer on the retrofit, to conduct a site visit to observe exposed rock and concrete fish ladder conditions. Provided an assessment of the existing concrete and exposed rock based on field-observed conditions, and prepared structural calculations for the new fish ladder and existing weir improvements. Specific responsibilities included performing structural analyses of new fish ladder components, developing connection details for new features to existing, and preparing construction details for implementation into the final contract documents.



AIMEE CORN, PE

Available SME: Structural

Years of Experience:

10

Education:

BS, Civil Engineering
(Mathematics Minor),
Seattle University,
2012

MS, Civil Engineering,
Colorado State
University, 2014

Registrations:

Professional Engineer
in California (Civil) -
No. C91329, CO, MT,
AZ, WY

Aimee has nearly a decade of experience working on the dam safety design and analysis of concrete dams and reinforced-concrete hydraulic structures. She has provided dam safety and engineering services for more than 20 dams in the western U.S. Aimee is experienced in risk assessment, as well as design alternatives, with areas of expertise that include concrete dam evaluation, hydraulic structures, structural engineering, FE analysis, post-tensioned anchors, and conducting comprehensive risk assessments.

Relevant Projects

Dam Safety Engineer Staff Augmentation, Western U.S., Confidential Client.

Dam Safety Engineer for internal and regulatory agency (DSOD and FERC) dam safety inspections for the client's Shasta and DeSabra area hydroelectric facilities. Addressed IC and regulatory recommendations to make certain compliance requirements of the Dam Safety Program were met. Coordinated 21 FERC Part 12D Safety Inspections and Potential Failure Mode workshops for concrete gravity dams, concrete arch dams, slab-and-buttress dams, and embankment dams in the Shasta and DeSabra regions of the client's assets. Also internal inspections included inspections of concrete spillways and training walls, visual inspection of reinforced hydraulic structures, gates, piers, and other appurtenant structures.

2017 FERC Part 12 Inspection, Merwin Dam Consultant Safety Inspection Report, Woodland, WA, PacifiCorp. Project Designer for assistance in the inspection activities and preparation of the PFMA, DSSMP, and the STID.

Williams Fork Dam Structural Stability Evaluations, Denver, CO, City and County of Denver. Project Designer for the update of the 3D FE analysis and performing the stability analysis for the extreme loading condition. The structural stability analysis of Williams Fork Dam was updated with the site-specific, seismic hazard analysis.

Structural Evaluation of Swift Dam Spillway, Lewis River, WA, PacifiCorp. Structural Engineer analyzing the spillway, pier, power intake tower, and wing, training, and chute walls for the 10,000-year seismic event. The analysis was done to evaluate the various potential failure modes. Completed the analysis using a linear 3D FE (ANSYS) analysis.

Mineral Creek Dam Safety Review, Ray, AZ, ASARCO. Project Engineer for visual inspection of the Mineral Creek Dam, a 185-foot-high concrete arch dam located on the ASARCO Ray Mine property. Project Engineer for dam safety inspection to evaluate the condition of the dam.

An assessment was made of the general physical condition of the structure and its operations with respect to safety based on the visual inspection and available data. Also reviewed available pertinent engineering data relative to the design, construction, operation, and monitoring of the dam and recommendations were developed to prioritize work recommended to maintain the integrity and operation adequacy of the dam.

Rocky Reach, Lake Chelan, and Rock Island Hydroelectric Facilities Technical Services, Lake Chelan Hydroelectric Facilities Technical Services, Chelan, WA, *Public Utility District No. 1 of Chelan County.* Project Engineer for the Part 12D IC inspection and review for Lake Chelan Dam in Washington. The Part 12D inspection process includes performing a site inspection and assessment, conducting a review workshop of the PFMA report, and preparing a consultant safety inspection report with input to the Dam Safety Surveillance and Monitoring Plan.

General Engineering Services, Strontia Springs Dam, Kassler, CO, *City and County of Denver.* Project Designer for the evaluation of the existing STID and assisted in the completion of the FERC CSIR. Strontia Springs is a double curvature thin-arch concrete dam.

Basin Creek Dam No. 1, Structural Assessment and Stability Analysis, Butte, MT, *The City-County of Butte Silver Bow.* Project Engineer for the structural assessment and the stability analysis of Basin Creek Dam No. 1 to make recommendations for repairs to the deteriorated concrete. The structural assessment and the stability analysis evaluated the behavior of the dam due to static conditions in accordance with FERC guidelines. Also reviewed project data, providing support for concrete coring and lab testing, completed a site visit to visually inspect the concrete, developed remediation recommendations including post-tensioned anchors and a concrete overlay, and prepared a letter report that documented work performed.

Yale Dam Spillway Design, Ariel, WA, *PacifiCorp.* Project Engineer for specification development and compiling construction design reports and drawings. This project involved analyzing the potential for cavitation and stagnation pressure development, the extent of rock scour that may occur, and the assessment of the existing spillway, to determine what flows would impinge on existing spillway freeboard. The second phase of the project involved designing a wall raise to contain the flow routed through the spillway. Design work included specification development and a design report. The design package will be submitted to the FERC for review and approval.

Eleven Mile, Cheesman, and Ralston Dams - Potential Failure Model Analysis, Denver, CO, *City and County of Denver.* Project Engineer for two PFMA's for the Eleven Mile, Cheesman, and Ralston dams. Each dam's historical data was reviewed, catalogued, and indexed for easy reference during the PFMA workshop. Individual working sessions were completed on-site following an inspection of the facility with Denver Water, caretakers, and regulators. PFMs were developed with the client and regulatory agencies. Ratings, including PFM description, positive and adverse factors, and potential confidence increase measures, for each PFM were developed in accordance with Colorado Dam Safety methodology.

Strontia Springs Dam Evaluation - Engineering Support Services, Kassler, CO, *City and County of Denver.* Project Designer for the update of the 3D FE analysis and performing the stability analysis for the extreme loading condition. The structural stability analysis of Strontia Springs Dam was updated with the site-specific, seismic hazard analysis.

Dam Feasibility Study, Fort Morgan, CO, *Upper Platte and Beaver Canal Company.* Project Designer for a site visit to visually inspect and photograph the dam. A feasibility study was done to investigate the stability of the existing dam as well as preliminary studies into the design of a potential new dam. The Upper Platte and Beaver Diversion Dam is a slab and buttress low-hazard dam.



WILLIAM FOOS, CPP, PSP

Available SME: Safety and Security

Years of Experience:

43

Education:

BA, Business Administration, University of Nebraska, 1986

MBA, Business Administration, Campbell University, North Carolina, 1997

Registrations:

Certified Protection Professional (CPP): ASIS International - No. 15986

Physical Security Professional (PSP): ASIS International - No. 17172

Bill is a Vice President and Director of Security and Safety Services at Gannett Fleming. Bill is a 35-year expert who regularly works with the technical aspects of security principles for physical protection system development, design, implementation, policy development, and training. He is certified by the Sandia National Laboratories as a qualified instructor for their Risk Assessment Methodologies. He has participated in more than 50 Threat, Vulnerability, and Risk Assessments on various government, commercial, and industrial sites.

Relevant Projects

EAP Services, Strawberry, CA, Tri-Dams Project. Senior Consultant and Lead Facilitator in support of their Tabletop and Functional Exercises as it related their EAP. The objective was to test a particular situation and assess the readiness of the internal and external respondents. The resulting goal was to verify the capabilities and preparedness, protection, response, recovery and mitigation of all hazards. Support included helping develop the exercise scenario, facilitating discussion and controlling the exercise.

Hydropower Projects – FERC Regulatory Requirements Assessments, Rosemead, CA, Southern California Edison (SCE) Company. Project Manager and Lead QA/QC reviewer for various security assessments and vulnerability risk assessments performed for SCE's Florence Lake, Shaver Lake Main, Big Creek Dam No. 1, Big Creek Dam No. 2A, Vermillion, and Huntington Dam structures. This required services and support on matters related to security, North American Electric Reliability Corporation's (NERC) CIP, dam safety, and security program management in accordance with the industry's best practice standards while verifying compliance with NERC and FERC standards.

Various Dam Safety and Water Resources Engineering Assignments, Public Safety Study and Plan, Chester County, PA, Chester County Water Resources Authority (CCWRA). Lead Security and Safety Inspector for four significant-hazard dams: Barneston Dam, Beaver Dam, Hibernia Dam, and Stuble Dam. The surveys included conducting a public site assessment and a review of the security and safety measures and procedures in place at each dam. Interviewed local police authorities to identify trends and likely threats that could be posed to the dams. The reports analyzed if the security and safety features at the dam sites were adequate for the level of public access and use. Reports captured the findings of the site surveys and made recommendations to mitigate the potential risks to the public while providing a program management process to CCWRA to help manage its public safety program. These management documents included public safety plans, public safety assessments, and a recommendation implementation plan.

State Dam Security and Antiterrorism Program Development and Training, Washington, DC, FEMA.

Program Manager/Security Specialist for the development of a state dam security and antiterrorism program guidebook and a program of instruction to teach the guidebook and the DAMSVR assessment process. This training provided state dam safety officials from 17 states with the knowledge and resources necessary to implement a state dam security and antiterrorism program.

National Dam Safety Workshop No. 10: Dam Site Security Threat, Consequences, and Vulnerability, Emmitsburg, MD, FEMA.

Program Manager/Presenter responsible for developing, organizing, and leading a 2-day workshop on the components of a vulnerability study. The workshop was attended by more than 180 engineers from both the private and public sectors and focused on helping the attendees develop an understanding of what comprises a vulnerability study and how to apply the vulnerability process to dam structures. Additionally, facilitated panel discussions on major areas of the vulnerability study process with experts and representatives from various federal and state agencies and organizations, including the U.S. Army Corps of Engineers, the U.S. Department of the Interior's Bureau of Reclamation, the Federal Bureau of Investigation, the ASDSO, and the FERC.

EAP Tabletop and Functional Exercises, Eureka, CA, Humboldt Bay Municipal Water District (MWD).

Senior Consultant performing duties as an outside facilitator to support their Tabletop and Functional Exercises as it related their EAP. The objective was to test a particular situation and assess the readiness of the internal and external respondents. The resulting goal was to verify the capabilities and preparedness, protection, response, recovery, and mitigation of all hazards.

Risk Analysis and Management for Critical Asset Protection (RAMCAP) Studies, San Marcos, CA, Vallecitos Water District.

QA/QC Officer for prepared assessments performed using the J100 RAMCAP. The risk and resilience assessment for a drinking water utility to comply with the AWIA, was conducted using the ANSI/AWWA J100-10 RAMCAP standard and the PARRE® software tool. The completed risk and resilience assessment assisted the water utility to meet the deadlines for water utilities serving populations more than 100,000 and to self-certify completion of their risk and resilience assessment to the United States Environmental Protection Agency (US EPA).

Dam EAP Functional Exercise (FE), Western U.S., Confidential Client.

Senior Consultant and Project Manager for EAP exercise support that included development, execution, and evaluation of a FE in accordance with Homeland Security Exercise and Evaluation Program (HSEEP) and FERC Engineering and Critical Energy Infrastructure Information (CEII) guidelines. A lake and the downstream inundation area in conjunction with the most recent PFMA for the dam were included in the development of the FE. The FE was a full-day event that included a brief orientation to the project. The FE consisted of a simulation of an emergency scenario at the dam that will be facilitated per the FERC Chapter 6 guidelines for a FE. The purpose of the FE was to examine coordination, command, and control between the various agencies and organizations involved during a dam emergency.

FERC Threat and Vulnerability Assessment, Oroville, CA, CA DWR.

Project Manager and Senior Security Analyst in conducting a DAMSVR required by the FERC. The report included assessing more than 142 assets and associated components of the Oroville Hydropower Project. This assessment included applying five threats prescribed by FERC to six major structures and associated components, including the Oroville Dam, Hyatt Power Plant, Thermalito Diversion Dam, Thermalito Forebay, Thermalito Pump and Generation Facility, and Thermalito Afterbay. The project was performed in accordance with standards outlined in the FERC Hydropower Security Program. The recommendations captured at the end of the DAMSVR are being used to address gaps to the existing internal security and safety program for the dam and hydropower project.

C. ACCESSIBILITY TO HYDROELECTRIC HEADQUARTERS

Gannett Fleming's team is committed to providing Tri-Dam with responsive dam safety program support services under this contract. Our Roseville, CA office is located about three hours from Tri-Dam's current Strawberry Headquarters, while key staff Randy Bowersox can typically get to Strawberry in about one hour. Our team's proximity to the project allows us to provide timely response, especially to critical dam safety incidents.

Gannett Fleming's Roseville office is home to 60+ engineering and support personnel, including Project Manager Stacy Vorster, and is also in reasonably close proximity to Tri-Dam's Headquarters office, with a typical drive time of around three hours.

While most emergent issues are not critical enough as to require immediate (lights-and-sirens style) response and onsite attention, we understand that some critical dam safety incidents can be highly time sensitive and that public safety can be at risk.

We have helped our clients with multiple emergency responses in the past, and in the event of a critical emergent issue discovered during typical business hours, it is likely that we could have resources on-hand to support Tri-Dam within four to five hours.

Response during nights and weekends may require slightly more time to coordinate and arrange, but many of our employees are in the greater Sacramento area, allowing us to mobilize quickly. Dam Safety Strategy Lead Randy Bowersox is physically located (typically) approximately one hour from Tri-Dam's Strawberry Headquarters. Randy is very familiar with 24/7 hydro utility operating environments, and well-practiced in coordinating off-hour responses to emergent issues.

Stacy and our team will be responsive and accessible as needed to support your needs for this contract.

D. REFERENCES

Built on a culture of excellence, Gannett Fleming has earned an industry-wide reputation for putting the right people and processes in place to create award-winning project solutions that build client confidence, shape communities, and spur innovation. We invite you to contact the references listed below, who can attest to our commitment to providing outstanding services to our clients.

Figure 4-1. Selected Gannett Fleming Client References. Below are four references from clients with whom Gannett Fleming has similar relevant past experience.



Nevada Irrigation District

Keane Sommers, PE | Chief Dam Safety Coordinator

1036 W Main St, Grass Valley, CA 95945

530.273.8571 ext. 101 | sommers@nidwater.com

Project Photo: Combie Dam Alternatives Analysis / Conceptual Design, CA



Turlock Irrigation District

Evan Lucas, PE | Chief Dam Safety Engineer

333 E. Canal Drive, Turlock, CA 95380

209.883.8608 | emlucas@tid.org

Project Photo: Dam Safety Engineering Services, Northern CA



Placer County Water Agency

Kyle Dushane, PE | Chief Dam Safety Engineer

5825 Sunset Drive, Foresthill, CA 95631

530.367.6715 | kdushane@pcwa.net

Project Photo: Dam Safety Engineering Services, Placer County, CA



Northern California Power Agency

Jake Eymann, PE | Hydroelectric Manager

477 Bret Harte Drive, Murphys, CA 95247

209.728.1387 ext. 322 | jake.eymann@ncpa.com

Project Photo: North Fork Stanislaus River and Upper Utica Hydroelectric Projects, Murphys, CA

E. STANDARD BILLING RATES FOR KEY PERSONNEL AND TEAM MEMBERS

Table E-1. Standard Billing Rates.

TEAM MEMBER	RATE
Stacy Vorster	\$220
Randy Bowersox	\$330
Darren Mack	\$315
Ryan Conrad	\$140

Other resources per Gannett Fleming’s 2023 Schedule of Charges will remain in effect through December 31, 2023.



Priest Rapids Dam, Grant County, WA, GCPUD

“Just wanted to say we appreciate the work you do to manage all of the pieces of this work. I believe it helps keep it on track and under control.”

– Kevin Marshall,
Grant County Public
Utilities Department



2251 Douglas Boulevard
Suite 200
Roseville, CA 95661
P 916.677.4800

gannettfleming.com

SCHEDULE OF CHARGES

Tri-Dam Project
2023

The Schedule of Charges applies to all services provided by and/or through Gannett Fleming. Charges for our services are divided into three categories: Personnel, Travel/Reimbursables and Outside Services. A new Schedule of Charges is issued at the beginning of each year. The Schedule of Charges may also be revised during the year, as conditions require. Changes will not be made within a calendar year on a project in progress without prior authorization from Client.

PERSONNEL

Personnel charges are for technical work and project management, including technical typing, editing, graphics and support services involved in the preparation of reports and correspondence, for the time associated with production of such documents, and for the time to perform project management and control functions. Personnel category per-hour charge rates are as follows:

<u>Civil/Geotechnical/Geological</u>	<u>Hourly Rate</u>
Chief Engineer/Geologist	\$ 330.00
Principal Engineer/Geologist II	315.00
Principal Engineer/Geologist I	295.00
Senior Consultant	265.00
Senior Project Engineer/Geologist III	270.00
Senior Project Engineer/Geologist II	240.00
Senior Project Engineer/Geologist I	220.00
Project Engineer/Geologist II	205.00
Project Engineer/Geologist I	180.00
Staff Engineer/Geologist	170.00
Senior Designer/Geologist	150.00
Designer/Geologist	140.00
<u>Electrical/Mechanical</u>	
Chief Electrical/Mechanical Engineer	330.00
Principal Electrical/Mechanical Engineer II	315.00
Principal Electrical/Mechanical Engineer I	295.00
Senior Consultant	270.00
Senior Project Electrical/Mechanical Engineer III	270.00
Senior Project Electrical/Mechanical Engineer II	260.00
Senior Project Electrical/Mechanical Engineer I	230.00
Project Electrical/Mechanical Engineer II	220.00
Project Electrical/Mechanical Engineer I	200.00
Staff Electrical/Mechanical Engineer	180.00
Senior Electrical/Mechanical Designer	155.00
Designer Electrical/Mechanical	140.00



2023 Schedule of Charges
Tri-Dam Project

<u>Security & Safety</u>	<u>Hourly Rate</u>
Senior SME	\$ 344.00
Director	298.00
Deputy Director	287.50
Senior Principal	287.50
Principal	263.50
Senior Project Analyst	251.00
Senior Consultant	242.00
Project Analyst	209.00
Consultant	209.00
Senior Analyst	176.00
Analyst	142.60
Associate Analyst	116.30
 <u>Support Services</u>	
Senior GIS Analyst	175.00
Chief CADD Technician	170.00
CADD/GIS Technician	140.00
Senior Admin	135.00
Technical Writer/Admin	120.00
Intern	75.00

The charge for expert witness services, depositions (2-hour minimum per day) and court (4-hour minimum per day) is \$660 per hour.

TRAVEL / REIMBURSABLES

Time spent in travel in the interest of the Client will be charged at the above hourly rates plus mileage at the current IRS rate, except that no more than eight (8) hours of travel time will be charged in any day. When it is necessary for an employee to be away from the office overnight, all actual costs, including meals and out-of-pocket expenses will be charged. Reimbursable items (e.g., airfare, hotel, automobile/equipment rental, supplies etc.) will be charged at cost plus fifteen percent (15%).

<u>Specialty Design Software</u>	<u>Hourly Rate</u>	<u>Specialty Field Equipment</u>	<u>Daily Rate</u>
Maptek Point Studio	\$85.00	Trimble R1 Antenna + Tablet	\$150.00
		Trimble R2 Antenna + Tablet	300.00
	<u>Flat Rate</u>	Protective Relay Test Set	250.00
Easypower, SKM, Etap, CDEGS	\$500.00	Rope Access Gear	200.00

OUTSIDE SERVICES

Outside services will be charged at cost plus fifteen percent (15%). Common outside items to which this 1.15 multiplier applies include, but are not limited to drilling services, laboratory testing, printing and photographic work, special insurance and outside consultants.



Darren Mack, PE, GE
2251 Douglas Boulevard
Suite 200
Roseville, CA 95661
916.677.4770
dmack@gfnet.com

BOARD AGENDA REPORT

Date: 12/21/2023
Staff: Summer Nicotero

SUBJECT: Discussion and Possible Action to Create and Designate Members for the New Headquarters Ad Hoc Committee

RECOMMENDED ACTION: Staff Recommends Approving Creation of a New Headquarters Ad Hoc Committee and Designating Members

BACKGROUND AND/OR HISTORY:

The Project purchased a new building earlier this year with the intention of relocating our Headquarters from Strawberry to Sonora. The building is in need of remodel to suit Project business needs. In order to provide a forum to evaluate options in remodeling the space, staff recommends the creation of an ad hoc committee with the intention of providing input on the design, utility, and costs associated with the remodel. In addition, staff recommends delegating two board members from each district to sit on the committee.

The first meeting is anticipated to take place January 8, following the Advisory committee meeting. The meeting frequency and location can be decided by the committee at that meeting,

FISCAL IMPACT: None

ATTACHMENTS: None

Board Motion:

Motion by: _____ Second by: _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

BOARD AGENDA REPORT

Date: 12/21/2023
Staff: Summer Nicotero

SUBJECT: FISHBIO Contract Budget and Scope of Work for 2024

RECOMMENDED ACTION: Discussion and possible action to approve the funding for 2024 to Contract with FISHBIO, Inc. and authorize the General Manager to execute the 2024 Professional Services Agreement 2024-PSA-TDP-01.

BACKGROUND AND/OR HISTORY:

As part of the 2023 contract renewal discussion, FISHBIO provided a budget for 2023, 2024, and 2025 to finish out the fish studies previously approved by the Project. The Board approved completion of the WIIN Act non-native predator study and a contract for 2023 was executed. The costs are outline in the attached Exhibit A, with a 2024 expected cost of \$125,000 for the WIIN Act non-native predatory study as well as \$90,000 for rotary screw trap monitoring and \$60,000 for O. Mykiss annual summer census for a total 2024 cost of \$275,000. The final year of the study will be 2025 with an annual cost of \$275,000 if the rotary screw trap monitoring and O. Mykiss annual summer census continue.

The attached Stanislaus fall-run Chinook stock-recruit analysis memo, attached as Exhibit A, requests additional funding of \$30,000 to develop stock-recruit models, run simulations, develop a comprehensive report, and a manuscript for publication.

The total contract request of \$305,000 is included in the 2024 Proposed Budget later in this agenda.

In addition, Staff is requesting that the board authorize the General Manager to execute the contract for the approved amount and scope of service.

FISCAL IMPACT: \$305,000- included in 2024 budget

ATTACHMENTS: Exhibit A - Stanislaus fall-run Chinook stock-recruit analysis memo
Exhibit B - FISHBIO, Inc. Professional Services Agreement 2024-PSA-TDP-01

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Weststeyn (Yes/No) Spyksma (Yes/No)

Proposed 2024 Stanislaus River Fish Studies Budget

This memorandum presents proposed Stanislaus River fish studies and estimated study costs for 2024. Costs and proposed study elements for 2024 remain the same as projected in our January 2023 budget memorandum which projected costs through 2025. Each study is discussed below including a brief review of 2023 and proposed effort in 2024.

Stock-Recruit

In 2019, the State Water Resources Control Board convened an advisory panel which was tasked with recommending methods for formulating biological goals related to the objectives of the Bay-Delta Plan. The key recommendation called for the use of a fisheries stock-recruit model to better understand the drivers of productivity of salmon populations, in addition to monitoring abundance. Using data on the number of adults returning to spawn (i.e., stock) and the number of offspring surviving to a point in time (i.e., recruits), a stock-recruit model describes the relationship between stock, the predictor variable, and recruits, the response variable. The curve of this relationship approximates the productivity of a population accounting for density-dependent effects.

The Stanislaus represents one of the few places in the Central Valley where this approach can be applied given long-term data collection at the Oakdale and Caswell rotary screw trap sites. During 2023 we compiled available data and worked with Dr. Josh Korman of EcoMetrics to model juvenile salmon production to both Oakdale and Caswell. Model development was completed in and the report of findings from the analyses is nearing completion. Following completion of the report we propose to develop a manuscript to submit for publication in a peer-reviewed journal in 2024. This is consistent with what was proposed to and approved by the Tri Dam Board in January 2023. The estimated cost to complete this work in 2024 is \$30,000.

O. mykiss Census

Annual summer snorkel surveys have been conducted since 2009 to estimate the abundance of *O. mykiss* in the Stanislaus River. This effort was initiated in response to NMFS Biological Opinion for steelhead, and the primary project objective remains to document changes in the population relative to management actions. The estimated cost to conduct the population census in 2024 is \$60,000.

WIIN Act Predation Study

This year marked the fifth and final year of the WIIN Act Predation Study with the final field data collection completed in spring 2023. The scope of the study in 2023 was similar to 2021 and 2022. In addition to field data collection, effort in 2023 has included updating data analyses and developing chapters of the synthesis report. This format allows for select chapters to more readily be developed into manuscripts that will be submitted for peer-reviewed publication. The first manuscript presenting findings of predator diet analysis from this study has been peer-reviewed and accepted for publication, and a second manuscript regarding striped bass occupancy is soon to be re-submitting following edits in response to peer-review comments. The in-press manuscript entitled "Diets of native and non-native piscivores in the Stanislaus River, California under

contrasting hydrologic conditions” will be published this month in San Francisco Estuary and Watershed Science.

It is anticipated that data analyses and development of the study report and recommendations will continue through June 2025, allowing time to work through interpretation and reporting of study findings with NMFS. A report to Congress is anticipated in December 2025 and NMFS has indicated that they will need the final six months leading up to December 2025 for internal review to finalize the report. Estimated costs to complete the study through 2025 are \$125,000 per year.

RST Monitoring

Rotary screw trap monitoring has provided a long-term dataset for the stock-recruit analyses and has been an integral component to the predator study. One finding of the predator study as presented in the in-press manuscript is that non-native predators strongly favor native prey. This is not only salmon, but a shocking number of lamprey were also observed in the diets suggesting significant impacts to this native species that is of growing concern. However, unlike Chinook salmon, we have not estimated trap efficiency for lamprey in the Oakdale RST and therefore cannot estimate their abundance and population level impact of predation. Given this observation, we applied earlier this year to the National Fish Habitat Partnership for funding through the Pacific Lamprey Conservation Initiative to estimate trap efficiency for lamprey if the Oakdale RST is in operation. Our proposal was recommended for funding, and a final funding decision will be made in spring 2024, likely after the majority of the lamprey migration has already occurred. If operation of the Oakdale RST is continued, the estimated cost is \$90,000 per year for intermittent sampling to estimate the abundance of juvenile salmon and lamprey.

Table 1. Estimated costs of Stanislaus River fish studies 2021-2025.

	2021	2022	2023	2024	2025
Weir	\$ 15,000	\$ -	\$ -	\$ -	\$ -
RST	\$ 125,000	\$ 90,000	\$ 90,000	\$ -	\$ -
<i>O. Mykiss</i>	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000
Predation Study*	\$ 500,000	\$ 475,000	\$ 450,000	\$ 125,000	\$ 125,000
Publications	\$ 100,000	\$ 125,000	\$ -	\$ -	\$ -
Consulting	\$ 25,000	\$ 25,000	\$ -	\$ -	\$ -
Stock-recruit	\$ -	\$ -	\$ 165,000	\$ 30,000	\$ -
Total	\$ 825,000	\$ 775,000	\$ 765,000	\$ 215,000	\$ 185,000
	RST monitoring (optional)			\$ 90,000	\$ 90,000

*Predation study reporting and publications combined in 2024 and 2025.

PROFESSIONAL SERVICES AGREEMENT

THIS PROFESSIONAL SERVICES AGREEMENT (“Agreement”) is effective as of January 1, 2024, (the “Effective Date”) by and between the **Tri-Dam Project**, a partnership of the **Oakdale** and **South San Joaquin Irrigation Districts**, irrigation districts governed by the provisions of Division 11 of the California Water Code (collectively, “Client”); and FISHBIO, Inc. (“Consultant”).

In consideration of the promises herein and for other good and valuable consideration, the parties hereto agree as follows:

- 1. Services:** Client and Consultant agree Consultant will perform the following general services: **Fisheries research, monitoring, and consulting.**

Services to be provided by Consultant and other work to be performed by Consultant (“Work”) are specifically described in the Scope of Work attached hereto as **Exhibit A**, which is incorporated herein by this reference.

Consultant’s key personnel assigned to, and who shall be primarily responsible for carrying out the Work, are as follows:

Name	Classification/Position	Project Role
Doug Demko	Principal biologist	Program co-manager
Andrea Fuller	Principal biologist	Program co-manager
Matt Peterson	Senior biologist	Project co-manager
Jason Guignard	Biologist III	Project co-manager

Consultant may replace, substitute, reassign, or remove key personnel from the Work by written approval of Client. However, where key personnel are unable to perform the Work due to absence, leave, or termination of employment, Client approval shall not be required but Consultant shall notify Client of the change.

- 2. Term of Agreement.** This Agreement shall commence on January 1, 2024 and shall terminate on December 31, 2024, unless amended pursuant to Section 18 or terminated pursuant to Section 19 herein.
- 3. Schedule for Performance.** Consultant shall perform the Work as expeditiously as is consistent with generally accepted standards of professional skill and care and the orderly progress of work.
- 4. Compensation and Price Ceiling.** The compensation to be paid by Client to Consultant for the Work shall be on a time and materials basis in accordance with the Budget / Rate and Fee Schedule attached hereto as **Exhibit B**. The Budget / Rate and Fee Schedule shall be effective for the duration of performance of the Work, unless otherwise negotiated by the parties, approved by Client’s Board of Directors, and consented to in writing by Client as an amendment to this Agreement.

Total compensation to Consultant for Work performed under this Agreement, including fees and expenses, shall not exceed the total price ceiling of: **Three Hundred Five Thousand Dollars (\$305,000).**

- 5. Invoicing and Payment.** Consultant shall submit periodic invoices, not more frequently than monthly, for the services rendered during the preceding period. All invoices are to be sent to the Client's Accounts Payable department with the project name listed on the invoice, and must indicate the hours actually worked by each classification as well as all other directly-related costs. Client shall approve or disapprove said invoice within ten (10) days following receipt thereof, and shall pay, within thirty (30) days' approval, all approved invoices. Client reserves the right to withhold payment of disputed specific items and shall give notice to the Consultant, pursuant to Section 6 herein, of all such disputed specific items within ten (10) days following receipt of billing or invoices. The parties shall exercise good faith and diligence in the resolution of any disputed invoiced amounts.
- 6. Notices.** Any notices or other communications to be given to any party pursuant to this Agreement shall be given by delivering same in writing to the parties at the addresses set forth below:

"CLIENT"

Tri-Dam Project

P.O. Box 1158
Pinecrest, California 95364-0158
Attn: Summer Nicotero, General Manager
Telephone: (209) 965-3996
Facsimile: (209) 965-4235

"CONSULTANT"

FISHBIO, Inc.

1617 S. Yosemite Avenue
Oakdale, CA 95361
Attn: Andrea Fuller
Telephone: (209) 847-6300

With courtesy copies to:

Oakdale Irrigation District

1205 E. F Street
Oakdale, California 95361
Attn: Scot Moody, General Manager
Telephone: (209) 847-0341
Facsimile: (209) 847-3468

South San Joaquin Irrigation District

P.O. Box 747
Ripon, California 95366-0747
Attn: Peter Rietkerk, General Manager
Telephone: (209) 249-4600
Facsimile: (209) 249-4688

Notice shall be deemed given when deposited into the United States mail, postage prepaid, addressed to the parties at the addresses above. Nothing shall preclude the giving of personal notice or notice by e-mail or facsimile machine provided, however, that notice by e-mail or facsimile machine shall be followed by notice deposited into the United States mail as set forth above.

7. Independent Contractor: It is understood and agreed that Consultant is an independent contractor and nothing in this Agreement should be construed to create a partnership, joint venture, or employer-employee relationship:

- a. Consultant, in the performance of its obligations under this Agreement, is subject to the control or direction of Client as to the designation of tasks to be performed, and the work to be accomplished but not the means, methods or sequence used by Consultant for accomplishing the work. Client shall have the right to guide the Consultant's work efforts, but not direct the results nor the manner or the means by which the work is performed.
- b. If, in the performance of this Agreement, any third persons are employed by Consultant, such persons shall be entirely and exclusively under the direction, supervision, and control of Consultant. All terms of employment, including hours, wages, working conditions, discipline, hiring, and discharging, or any other terms of employment or requirements of law, shall be determined by Consultant.
- c. Consultant and Consultant's employees are not authorized to act as agent for, or make any representation, contract, or commitment on behalf of Client.
- d. Consultant shall not be entitled to any benefits payable to employees of Client.
- e. Client will not make any deductions or withholdings from the compensation payable to Consultant under this Agreement, and will not withhold or make payments for social security; make unemployment insurance or disability insurance contributions; or obtain worker's compensation insurance on Consultant's behalf.
- f. Consultant will be solely responsible for all tax returns and payments required to be filed with or made to any federal, state or local tax authority with respect to Consultant's performance of services and receipt of fees under this Agreement. Consultant agrees to accept exclusive liability for complying with all applicable state and federal laws governing self-employed individuals, including obligations such as payment of taxes, social security, disability and other contributions based on fees paid to Consultant, its agents or employees under this Agreement. Consultant hereby agrees to indemnify and defend Client against any and all such taxes or contributions, including penalties and interest.
- g. Consultant hereby indemnifies and holds Client harmless from any and all claims that may be made against Client based upon any contention by any third party that an employer-employee relationship exists by reason of this Agreement.

8. Authority of Consultant. It is understood that Consultant is to provide information, research, advice, recommendations and consulting services to Client. Consultant shall not possess any authority with respect to any decision of Client. Client is responsible for, and shall make all policy decisions related to, the Work performed by Consultant.

9. Potential Conflicts of Interest.

- a. Consultant shall disclose its involvement in any projects which may be directly affected by actions taken by Client based on the services provided hereunder. Consultant shall not write a proprietary specification for material, equipment, or service from companies in which it holds a beneficial interest.
- b. Consultant certifies that it has disclosed to Client any actual, apparent or potential conflicts of interest that may exist relative to the services to be provided pursuant to this Agreement. Consultant hereby agrees to advise Client in writing of any actual, apparent, or potential conflicts of interest that may develop subsequent to the date of execution of this Agreement and shall give such notice pursuant to Section 6 herein,

within ten (10) days of Consultant's knowledge of such conflict. District reserves the right to require Consultant to submit a financial disclosure statement.

- c. Consultant agrees to refrain from other engagements that may present an actual, apparent or potential conflict of interest with respect to the work covered by this Agreement. Consultant may request a waiver of these requirements from District. The request for a waiver must be in writing and shall contain a disclosure and description of the actual, apparent or potential conflict of interest and Consultant's reasons and justification for requesting such a waiver. The request shall be submitted to District pursuant to Section 6 of this Agreement.

10. Ownership of Work Product. All technical data, evaluations, plans, specifications, maps, drawings, images, reports or other work product of Consultant prepared pursuant to this Agreement constitute work made for hire ("Work Product").

- a. All Work Product shall be delivered to Client upon completion of the services authorized hereunder, and shall become, the property of Client, and Client shall be the copyright holder thereof. Client shall have the right to make and retain copies and use all Work Product; provided, however, the use shall be limited to the intended use for which the services and Work Products are provided under this Agreement. Client agrees to indemnify and hold Consultant harmless if Work Product is used for other than its original intended purpose.
- b. Consultant retains no rights to use the Work Product and agrees not to challenge the validity of Client's rights or ownership in the Work Product. Consultant may retain copies of the Work Product for its files and internal use. Consultant's publication or release of any or all of the information directly derived from work performed or data obtained in connection with services rendered under this Agreement must first be approved in writing by Client.
- c. If Consultant has any rights to the Client Work Product that cannot be assigned to Client, (a) Consultant unconditionally and irrevocably waives the enforcement of such rights, including all claims and causes of action of any kind against Client with respect to such rights, and agrees, at Client's request and expense, to consent to and join in any action to enforce such rights, and (b) Consultant unconditionally and irrevocably grants to Client during the term of such rights, an exclusive, irrevocable, perpetual, worldwide, fully paid and royalty-free license, with rights to sublicense through multiple levels of sublicensees, to reproduce, create derivative works of, distribute, publicly perform, and publicly display by all means now known or later developed, such rights.

11. Indemnification. Consultant, by execution of this Agreement, specifically agrees to hold harmless, defend and indemnify District, its officers, agents, and employees from and against any and all actions, claims, loss, liability, damage and expense arising out of, pertaining to, or relating to the negligent, reckless, or willful misconduct of Consultant, Consultant's employees or subconsultants engaged by Consultant in connection with the work of Consultant pursuant to the terms of this Agreement, excepting only such injury and harm as may be caused solely and exclusively by Client's sole negligence, willful misconduct or active negligence. In no event shall the cost to defend charged to Consultant exceed Consultant's professional's proportionate percentage of fault. Such indemnity shall extend to claims, demands, or liabilities, of every kind or nature whatsoever including, but not limited to, personal injury, wrongful death, and property damage occurring during and/or after completion of the Work. Notwithstanding the foregoing provisions of this paragraph, if Consultant is a design professional, as defined by Section 2782.8(b)(2) of The Civil Code of the State of California, or its successor, then such design professional shall, to the fullest extent permitted by law, indemnify, and hold Client harmless from and against any and all liabilities, losses or

damages, arising out of or encountered in connection with this Agreement or the prosecution of work under it to the extent such, liabilities, losses or damages, are actually caused by the negligence of such design professional or its agents, employees, or subcontractors, or their agents or employees. Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by Client, its directors, officers, employees, or authorized volunteers.

12. Insurance. During the performance of the Services under this Agreement, Consultant and each subconsultant retained by Consultant shall maintain at their own expense the following insurance:

- (1) General Liability Insurance, with a combined single limit of \$1,000,000 for each occurrence and \$2,000,000 in the aggregate.
- (2) Automobile Liability Insurance, with a combined single limit of \$1,000,000 for each person and \$1,000,000 for each accident.
- (3) Workers' Compensation Insurance in accordance with Section 3700 of the California Labor Code and Employers' Liability Insurance Act, with a limit of \$1,000,000 for each occurrence. Consultant shall provide a certificate of compliance in the form attached as **Exhibit C**.
- (4) Errors and Omissions or other applicable Professional Liability coverage in the minimum amount of \$1,000,000.

Said insurance will be evidenced by certification filed with the Client as otherwise specified by this Agreement. All policies shall name "**the Oakdale Irrigation District, the South San Joaquin Irrigation District, the Tri-Dam Project, and each of their respective directors, officers, employees and volunteers**" as additional insureds on the General Commercial Liability and Automobile Liability policies.

a. Commercial General Liability and Automobile Liability Insurance: Consultant shall provide and maintain commercial general liability and automobile liability insurance as set forth in this Agreement.

1. **Coverage:** Coverage for commercial general liability and automobile liability insurance shall be at least as broad as the following:
 - i. Insurance Services Office ("ISO") Commercial General Liability Coverage (Occurrence Form CG 0001); and
 - ii. ISO Business Auto Coverage (Form CA 0001), covering Symbol 1 (any auto).
2. **Limits:** Consultant shall maintain limits no less than the following limits:
 - i. General liability of One Million Dollars (\$1,000,000) per occurrence and Two Million Dollars (\$2,000,000) in the aggregate, for bodily injury, personal injury and property damage. If Commercial General Liability insurance or other form with a general aggregate limit or products-completed operations aggregate limit is used, either the general aggregate limit shall apply separately to the project/location (with the ISO CG 2503, or ISO CG 2504, or

insurer's equivalent endorsement provided to Client) or the general aggregate limit and products-completed operations aggregate limit shall be twice the required occurrence limit; and

- ii. Automobile Liability of One Million Dollars (\$1,000,000) for bodily injury and property damage each accident limit.

3. **Required Provisions:** The General Liability and Automobile Liability policies are to contain, or be endorsed to contain, the following provisions:

- i. "The South San Joaquin Irrigation District, and each of their respective directors, officers, employees, and authorized volunteers are to be given insured status (ISO endorsement CG 2010, CG 2033, or insurer's equivalent for general liability coverage) as respect to liability arising out of activities performed by or on behalf of the Consultant; products and completed operations of Consultant; premises owned, occupied or used by Consultant; and automobiles owned, leased, hired or borrowed by Consultant." The coverage shall contain no special limitations on the scope of protection afforded to Client, its directors, officers, employees, or authorized volunteers;
- ii. For any claims related to the Services, Consultant's insurance shall be the primary insurance, and any insurance, self-insurance, or other coverage maintained by Client, shall be non-contributory.
- iii. Any failure by Consultant to comply with reporting or other provisions of the insurance policies including but not limited to a breach of any warranties contained therein shall not affect coverage provided to Client, its directors, officers, employees, or authorized volunteers; and
- iv. Consultant's insurance shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

4. **Subrogation:** Consultant shall waive all rights of subrogation against Client.

- b. **Workers' Compensation and Employer's Liability Insurance:** Consultant and all sub-contractors shall insure (or be a qualified self-insured) under the applicable laws relating to Worker's Compensation insurance, all of their employees working on or about the construction site, in accordance with the "Workers' Compensation and Insurance Act." Division IV of the Labor Code of the State of California and any Acts amendatory thereof. Consultant shall provide employer's liability insurance with limits of no less than One Million Dollars (\$1,000,000) each accident, One Million Dollars (\$1,000,000) disease policy limit, and One Million Dollars (\$1,000,000) disease each employee.

If Consultant is a Sole Proprietor, a Sole Proprietor Business Affidavit Form must be on file with the Client prior to the start of the Work or providing Services.

- c. **Deductibles and Self-Insured Retentions:** Any deductible or self-insured retention must be declared to and approved by Client.

- d. Acceptability of Insurers:** Consultant shall purchase the policies of insurance required under this Agreement from insurers having a current A.M. Best Financial Strength Rating of no less than A, and Financial Size Category of no less than VII or as otherwise approved by Client.
- e. Evidence of Insurance:** Evidence of the insurance coverage required to be maintained by Consultant under this Agreement, as represented by Certificates of Insurance and all required endorsements issued by the insurance carrier, must be furnished to Client prior to Consultant starting the Work. Such Certificates of Insurance/endorsement shall state that Client will be notified in writing thirty (30) days prior to cancellation of insurance. Timely renewal certificates will be provided to Client.
- f. Continuation of Coverage:** If any of the required coverages expire during the term of this Agreement, Consultant shall deliver all applicable renewal certificates to Client at least ten (10) days prior to the expiration date.

13. Confidentiality. Consultant shall not, either during or after the term of this Agreement, disclose to any third party, any confidential information relative to the work of Client without the prior written consent of Client.

14. Non-Discrimination in Employment. Consultant shall not discriminate against any employee, applicant for employment or volunteer because of race, color, creed, religion, national origin, sex, age, or physical, mental handicap or any other basis prohibited by applicable law.

- a. Consultant shall take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, color, creed, religion, sex, national origin, age, physical or mental handicap or any other basis prohibited by applicable law. Such action shall include, but not be limited to the following: employment, promotion, demotion or transfer; recruitment or advertising; layoff or termination; rates of pay or other forms of compensation; or selection for training, including apprenticeship. Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices that Consultant shall provide an atmosphere free of harassment as prohibited by applicable law for employees, clients, and volunteers.
- b. Consultant shall, in all solicitations or advertisements for employees, state that all qualified applicants will receive consideration for employment without regard to race, color, creed, religion, sex, national origin, ancestry, age, physical or mental handicap or any other basis prohibited by applicable law.

15. Financial Records. Consultant shall retain all financial records, including, but not limited to, documents, reports, books and accounting records which pertain to any work or transaction performed pursuant to this Agreement for four (4) years after the expiration of this Agreement. Either District or any duly authorized representative of Client shall, with reasonable notice, have access to and the right to examine, audit and copy such records.

16. Compliance with Laws; Labor Code Provisions. It is the responsibility of the Consultant and any subconsultant to comply with all federal, state and local laws and regulations applicable to Consultant and any subconsultant, including provisions of DIVISION 2, PART 7 of the California Labor Code, and those provisions governing the payment of prevailing wages, working hours, overtime, the employment of apprentices and record keeping requirements. Copies of the prevailing rate of per diem wages are available at District's principal office and will be made

available to any interested party on request. The following sections of the California Labor Code are incorporated into and made a part of this Agreement and will be made available by District upon request: Section 1771 (prevailing wage requirement,) Section 1810 (eight hour workday,) Section 1813 (penalty for failure to pay overtime,) Section 1777.5 (apprenticeship requirements); Section 1776 (recordkeeping requirements) and Section 1771.4 (job site posting).

17. Assignment. Consultant may not assign its rights or obligations hereunder without the prior written consent of Client, which may be granted or withheld in Client's sole discretion.

18. Amendments. Modification or amendments to the terms of this Agreement shall be approved by Client's Board of Directors, and consented to in writing by Client as an amendment to this Agreement, and executed by all parties.

19. Termination. Either party shall have the right to terminate this Agreement at any time by serving upon the other party thirty (30) days' advance written notice of termination. The notice shall be deemed served and effective for all purposes on the date it is deposited in the United States mail, postage prepaid and addressed to Consultant at the address indicated in Section 6. In the event of such notice of termination:

- a. Consultant shall, as directed by Client or on such other mutually acceptable terms, proceed with the orderly shutdown of project activities, cease rendering further services and proceed with archiving of project materials.
- b. Consultant shall deliver to Client copies of all writings and other Work Product prepared pursuant to this Agreement. The term "writings" shall be construed to mean and include handwriting, typewriting, computer files and records, drawings, blueprints, printing, photostating, photographing, and every other means of recording upon any tangible thing, any form of communication or representation, including letters, words, pictures, sounds, or symbols, or combinations thereof.
- c. Client shall have full ownership and control of all such writings delivered by Consultant pursuant to this Agreement.
- d. Client shall pay Consultant for work performed until the effective date of termination, subject to the limitations prescribed by Sections 4 and 5 of this Agreement.

20. No Rule of Strict Construction. The parties agree that this Agreement and any amendments or exhibits hereto shall be construed without regard to any presumption or rule requiring construction against the party causing such instrument or any portion thereof to be drafted, or in favor of the party receiving a particular benefit under the Agreement. No rule of strict construction shall be applied against any party. If any provision of this Agreement is determined by a court to be unenforceable, the parties shall deem the provision to be modified to the extent necessary to allow it to be enforced to the extent permitted by law, or if it cannot be modified, the provision will be severed and deleted from this Agreement, and the remainder of the Agreement will continue in effect.

21. Applicable Law; Venue. This Agreement shall be governed by, construed, and enforced in accordance with, the laws of the State of California. Any claims or litigation arising under this Agreement shall be brought by the parties in the Superior Court of California, County of Stanislaus.

22. Survival. The ownership of work product provisions of Section 10, the indemnity provisions of Section 11, the confidentiality provisions of Section 13 and the inspection provisions of Section 15 shall survive the expiration or other termination of this Agreement.

23. Entire Agreement. This Agreement, together with the exhibits hereto, is the final, complete, and exclusive agreement of the parties with respect to the subject matter hereof and supersedes and merges all prior discussions between the parties. No modification of or amendment to this Agreement, nor any waiver of any rights under this Agreement, will be effective unless in writing and signed by Client and Consultant.

IN WITNESS WHEREOF, the parties have signed this Agreement as of the dates indicated below; provided, however, that the Agreement shall be deemed effective as of the Effective Date identified above.

CLIENT

CONSULTANT

Tri-Dam Project

FISHBIO, Inc.

Summer Nicotero,
General Manager

Date

Andrea Fuller, VP

Date

EXHIBIT “A” SCOPE OF WORK

Stock-Recruit

During 2023 we compiled available data and worked with Dr. Josh Korman of EcoMetrics to model juvenile salmon production to both Oakdale and Caswell. Model development was completed and the report of findings from the analyses is nearing completion. Following completion of the report we propose to develop a manuscript to submit for publication in a peer-reviewed journal in 2024. This is consistent with what was proposed to and approved by the Tri Dam Board in January 2023. The estimated cost to complete this work in 2024 is \$30,000.

O. mykiss Census

Annual summer snorkel surveys have been conducted since 2009 to estimate the abundance of *O. mykiss* in the Stanislaus River. This effort was initiated in response to NMFS Biological Opinion for steelhead, and the primary project objective remains to document changes in the population relative to management actions. The estimated cost to conduct the population census in 2024 is \$60,000.

WIIN Act Predation Study

It is anticipated that data analyses and development of the study report and recommendations will continue through June 2025, allowing time to work through interpretation and reporting of study findings with NMFS. A report to Congress is anticipated in December 2025 and NMFS has indicated that they will need the final six months leading up to December 2025 for internal review to finalize the report. Estimated costs to complete the study through 2025 are \$125,000 per year.

RST Monitoring

Rotary screw trap monitoring has provided a long-term dataset for the stock-recruit analyses and has been an integral component to the predator study. One finding of the predator study as presented in the in-press manuscript is that non-native predators strongly favor native prey. This is not only salmon, but a shocking number of lamprey were also observed in the diets suggesting significant impacts to this native species that is of growing concern. However, unlike Chinook salmon, we have not estimated trap efficiency for lamprey in the Oakdale RST and therefore cannot estimate their abundance and population level impact of predation. Given this observation, we applied earlier this year to the National Fish Habitat Partnership for funding through the Pacific Lamprey Conservation Initiative to estimate trap efficiency for lamprey if the Oakdale RST is in operation. Our proposal was recommended for funding, and a final funding decision will be made in spring 2024, likely after the majority of the lamprey migration has already occurred. If operation of the Oakdale RST is continued, the estimated cost is \$90,000 per year for intermittent sampling to estimate the abundance of juvenile salmon and lamprey.

EXHIBIT "B" BUDGET / RATE AND FEE SCHEDULE

Budget

Life-cycle Monitoring	\$ 90,000
Predation Study	125,000
Stock Recruit	30,000
O.mykiss	60,000
Total Budget	\$305,000

Rate and Fee Schedule:

Hourly service rates are provided for each service category in the table below followed by a description of other charges which may be billed. Hourly rates will be pro-rated to the nearest ¼ hour (e.g., 15 minutes).

<i>Position</i>	<i>Rate</i>
Principal Biologist	\$180
Senior Biologist	\$160
Biologist 3	\$150
Biologist 2	\$140
Biologist 1/ Graphical Design	\$120
Technician 2	\$95
Technician 1	\$85
Office Assistant	\$75

Project specific expenses including, but not limited to, purchase of and repairs to rotary screw traps, weirs, and telemetry equipment; warning signs posted at monitoring sites; boat rental; travel costs (i.e., vehicle mileage and rental, gas for boats, and lodging), and specialty printing costs (i.e., posters, aerial photographs, brochures) will be charged at cost. Equipment expenses for pilot or highly specialized projects (e.g., telemetry studies) will also be charged at cost.

Subcontractor charges will be billed at cost plus 10% for services and at cost for all other expenses.

EXHIBIT "C" WORKERS COMPENSATION CERTIFICATION

Labor Code Section 3700 provides, in pertinent part:

"Every employer except the state shall secure the payment of compensation in one or more of the following ways:

- (a) By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state; or
- (b) By securing from the Director of Industrial Relations a certificate of consent to self-insure either and to pay any compensation that may become due to his or her employees. . ."

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.

"CONSULTANT"

By: _____ Dated: _____

Name: _____

Title: _____

BOARD AGENDA REPORT

Date: December 21, 2023

Staff: Summer Nicotero

SUBJECT: Month-to-Month Lease Extension Agreement for Tulloch South Shore Property.

RECOMMENDED ACTION: Review and authorize the GM to sign a month-to-month lease extension agreement for a portion of the Tulloch south shore property, Tuolumne County APN 063-100-007, to Doug Lucas, DBA Doug's Dockworks.

BACKGROUND AND/OR HISTORY:

For years Tri-Dam has leased a portion of the land on the south shore of Tulloch, next to the dam. The rental agreements were with local contractors for the purpose of constructing, repairing, and storing docks and equipment that were to be later installed under active Tulloch Encroachment Permits.

The most recent rental agreement term concluded on December 1, 2023. The tenant, Doug Lucas of Doug's Dockworks, currently, under active Tulloch Encroachment Permits, has docks and related materials stored on both the land and water aspects this property. Due to the nature of this winter's low-level drawdown, for the California Division of Safety of Dams (DSOD's) required 3-year exercising and testing of the spill gates, the current reservoir elevation is at an extraordinarily low level. This prevents Mr. Lucas from returning the docks and related components stored at this property to their permitted locations on Tulloch Reservoir. The reservoir level will not return to its normal range until May 2024.

This extension will allow the current lessee ample time for the water level to rise to normal range, allowing for removal of any property belonging to the lessee.

ATTACHMENTS: Proposed Month-to-Month Lease Extension Agreement, 2020-2023 Rental Agreement.

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

**AMENDMENT No. ONE
TO
RENTAL AGREEMENT**

THIS AMENDMENT No. ONE amends that Rental Agreement (“Agreement”) entered into December 7, 2020 between the Tri-Dam Project (“Owner”) and Lucas Building Corporation DBA Doug’s Dockworks (“Renter”).

In accordance with Section 18 of the Agreement, Owner and Renter mutually agree to amend the Agreement as follows:

- 1) Section 4. The Term of Lease set forth in Section 4 of the Agreement shall be extended on a month-to-month basis, per calendar month, effective December 1, 2023, for a maximum of six (6) calendar months. Owner may terminate this Agreement upon thirty (30) days’ written notice to Renter. Renter may terminate this Agreement at any time upon 1) written notice to Owner, 2) complete removal of all Renter’s Equipment and personal property from Owner’s Real Property, and 3) Renter’s restoration of Owner’s Real Property to a condition as good or better than that at the time Renter began to occupy Owner’s Real Property under the Agreement.

- 2) Section 5 Section 5 shall be amended to read in full as follows:

“5. Rent shall be payable to Owner without demand, notice or offset, in the amount of \$250.00 Dollars per month for the access to Owners’ Real Property, due and payable on the first (1st) of each month, with the exception of rent for the month of December 2023, which shall be payable within five (5) days of last execution by the parties of this Agreement, as amended. If the Rent is not received before the seventh (7th) day of the month due by 5:00 p.m. PST, a ten percent (10%) late fee will be assessed on the full amount of rent due and delinquent and shall be immediately due and payable, and will accrue interest therefrom at the rate of ten percent (10%) per month.”

IN WITNESS WHEREOF, the parties have agreed to this Amendment No. One, effective December 1, 2023.

RENTER

LUCAS BUILDING CORPORATION,
DBA DOUG’S DOCKWORKS

By: _____
Doug Lucas, Owner

OWNER

TRI-DAM PROJECT
a partnership between
Oakdale Irrigation District and
South San Joaquin Irrigation District

By: _____
Summer Nicotero, General Manager

RENTAL AGREEMENT

THIS RENTAL AGREEMENT (this "Agreement") is made and entered into this 7th day of December, 2020, between the Tri-Dam Project, a joint powers agency between Oakdale Irrigation District and South San Joaquin Irrigation District, ("Owner"), and Doug Lucas, Lucas Building Corporation, doing business as Doug's Dockworks. (collectively "Renter"). In consideration of the mutual covenants, conditions and promises herein, the parties agree as follows:

1. Renter owns equipment ("Equipment") described as follows: one floating barge, (16' x 30'). Renter desires to use Equipment for use exclusively on Tulloch Reservoir, in Calaveras and Tuolumne Counties, California ("Tulloch Reservoir") for the limited purpose of performing dock installation, maintenance and repairs.
2. Owner has real property located generally at the south shore of Tulloch Reservoir ("Owner's Real Property").
3. Renter desires to (a) anchor the Equipment at or near the shoreline of Owner's Real Property at South Shore for the purpose of accessing the Equipment from the nearest parking area located on the Owner's Property, (b) and to also have access to Owner's Real Property for the limited purpose of performing dock installation, maintenance and repair.
4. Unless earlier terminated pursuant to this Agreement, the rental term shall be for a three year period beginning December 1, 2020, and ending December 1, 2023. Prior to the termination of this agreement, and if both parties are satisfied with the terms and conditions hereto, then a new rental agreement will be entered into by both parties for the continued use of Tri-Dam property.
5. Rent shall be payable to Owner without demand, notice or offset, in the amount of \$250.00 Dollars per month for the access to Owner's Real Property, due and payable on the first (1st) of each month, commencing December 1, 2020, except as otherwise provided pursuant to this Agreement ("Rent"). If the Rent is not received before the seventh (7th) day of the month due by 5:00 p.m. PST, a ten percent (10%) late fee will be assessed on the full amount of rent due and delinquent and shall be immediately due and payable, and will accrue interest therefrom at the rate of ten percent (10%) per annum.
6. This is an Agreement of rental only. Neither Renter nor any other user of the Owner's Real Property shall be the agent, servant, or employee of Owner for any reason or purpose. Owner's recording of a UCC-1 Financing Statement shall have no impact on the status of this Agreement as a rental agreement.
7. Except as otherwise provided herein, Renter shall be solely responsible for the pick-up, transportation, use, and storage of the Equipment. The Renter may from time to time request to stage dock(s) and related materials on the Owner's Real Property prior to their installation on the reservoir. Renter shall obtain permission from Owner prior to the placement for staging or storage on the Owner's property, and may be required to pay additional fees for this accommodation, but only after a permit by Owner has been issued for the installation of said

DLS

dock or other facilities. An administration fee of \$25.00 per dock may be required, to be paid on the 1st day of the month following the staging/storage authorization by Owner.

8. Renter shall have, limited to the duration of the term of this Agreement a non-exclusive license to (a) anchor the Equipment at or near the shoreline of Owner's real property located generally at the south shore of Tulloch Reservoir and (b) traverse Owner's Real Property for the sole purpose of accessing the Equipment from the adjacent parking area, and such anchoring and access locations and permissions shall be at the sole and absolute discretion and direction of Owner. Owner may, with reasonable notice, request the location of the Equipment storage be moved.

9. Renter hereby agrees:

a. to comply with all applicable state, federal and local laws, rules, regulations and ordinances in the use of said Equipment;

b. to keep and maintain upon the Equipment, signs and marks of ownership and identification placed thereon by Owner;

c. to secure and pay for all licenses and permits necessary to maintain and operate the Equipment on the premises described above and shall pay all taxes and fees levied by any taxing or governmental authority on the Equipment, or the maintenance or installation thereof, and to reimburse Owner on demand for any such fees, taxes or charges paid by Owner;

d. that operations in and around Tulloch Reservoir at or below the five hundred fifteen foot (515') elevation contour are subject to the jurisdiction of the Tri-Dam Project and the Tri-Dam Project's Shoreline Management Plan and Renter shall perform no work at or below said contour unless and until Renter or anyone Renter is performing work for complies with any and all permit requirements and regulations of Owner and is issued and is in possession of any and all necessary permits by Owner; and

e. Renter will not install, possess, or maintain any facilities on Tulloch Reservoir at or below the 515-foot elevation contour that are not in compliance with a permit from Owner and the Shore Line Management Plan of Owner.

10. Renter will at all times during the lease term, at Renter's sole expense, carry and maintain or cause to be carried and maintained:

a. Commercial General Liability insurance issued on an occurrence basis to include (but not be limited to) premises and operations, completed operations, bodily injury, death, and property damages coverage with limits of not less than \$1,000,000 per occurrence, \$2,000,000 aggregate, and shall provide or be endorsed to provide that Owner and its officers, directors, employees, and agents are covered as additional insureds;

b. All-risks property insurance for the Equipment equal to the casualty value of the Equipment and shall provide or be endorsed to provide that Owner and its officers, directors, employees, and agents are covered as additional insureds;

c. Riggers liability coverage issued on an occurrence basis to include with limits of not less than \$1,000,000 per occurrence, \$2,000,000 aggregate, and shall provide or be endorsed to provide that Owner and its officers, directors, employees, and agents are covered as additional insureds; and

d. Workers Compensation as required by California law and employers liability insurance in the amount of no less than \$1,000,000 each accident for bodily injury; \$1,000,000 each employee for disease and \$1,000,000 policy limit for disease.

11. Renter agrees to indemnify and hold Owner harmless from and against any and all actions, suits, proceedings, losses, debts, expenses, costs (including legal fees), claims, causes of action, demands, liabilities or damages of any kind for any loss, damage, injury or death to any person or persons, to any real or personal property or imposed by any government agency arising out of the operation, use, location or condition of the Equipment, or use of Owner's Real Property, or any part thereof, or any way arising out of or relating to Renter's use of Owner's Real Property. Under no circumstances shall Owner be liable to Renter for any damages of any kind arising from the performance or nonperformance of Renter's obligations under this Agreement. This indemnity shall survive the expiration or earlier termination of this Agreement

12. Access to Owner's property shall be limited to Renter and Renter's employees. On or before the mutual execution of this Agreement, Renter shall provide Owner a list of all employees of Renter who will access the property ("**Employee List**"), and Renter shall have an ongoing duty to keep current the Employee List by promptly providing notice to Owner.

13. Renter agrees that Owner may terminate this Agreement at any time if Renter does not comply with the terms and conditions set forth in this Agreement

14. In the event that Owner's property is damaged, destroyed as a result of the Renter's use of the property, the Renter will be solely responsible for repair or replacement of such property.

15. Renter shall not transfer or assign its rights or interests in this Agreement.

16. No right or remedy available to Owner pursuant to this Agreement or by law or in equity shall be deemed exclusive, but each shall be cumulative of every other such right or remedy.

17. This Agreement constitutes the entire agreement between Owner and Renter relating to its subject matter and supersedes all prior or contemporaneous representations, discussions, negotiations, and agreements, whether written or oral, relating to its subject matter.

18. This Agreement may be amended or terminated only by a writing that is mutually agreed-upon and signed by duly authorized representatives of both Owner and Renter.

D.L.

19. Failure by either Owner or Renter to enforce any provision of this Agreement shall not be deemed to be a continuing waiver or a waiver of any other default or other term, but shall act solely in the instance to which such waiver is directed.

20. If any provision of this Agreement shall be held by an arbitrator or court of competent jurisdiction to be unenforceable, such provision shall be deemed null and void, and the remainder of the Agreement shall continue to be in full force and effect.

21. This Agreement may be executed in two or more counterparts, each of which shall be deemed original, but all of which shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have entered into this Agreement as of the date written above.

RENTER

LUCAS BUILDING CORPORATION,
doing business as DOUG'S DOCKWORKS

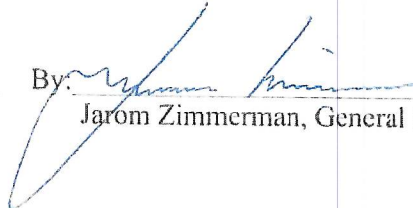
By:


Doug Lucas

OWNER

TRI-DAM PROJECT,
Joint Powers Agency between
Oakdale Irrigation District and
South San Joaquin Irrigation District

By:


Jarom Zimmerman, General Manager

BOARD AGENDA REPORT

Date: December 21, 2023

Staff: Summer Nicotero

SUBJECT: Leasing of Tulloch South Shore Property.

RECOMMENDED ACTION: Discussion and possible action on the continuance of leasing a portion of the Tulloch south shore property, Tuolumne County APN 063-100-007, to contractors for the purpose of constructing, repairing, and storing docks under active Tulloch Encroachment Permits.

BACKGROUND AND/OR HISTORY:

Under the current Federal Energy Regulatory Commission (FERC) license P. 2067 for Tulloch Reservoir, the Tri-Dam Project is required to develop and enforce a Shoreline Management Plan (SMP). Sections of the current SMP detail the specifications in which Tri-Dam can permit facilities (such as docks) within the Project boundary. Tulloch Reservoir has limited locations for contractors to assemble, launch, repair and store docks and related materials.

For many years Tri-Dam has leased a portion of the land on the south shore of Tulloch, next to the dam. The previous lease agreements were with local contractors for the purpose of constructing, repairing, and storing docks and equipment that were to be later installed under active Tulloch Encroachment Permits.

The most recent rental agreement term concluded on December 1, 2023. The tenant, Doug Lucas of Doug's Dockworks, has been leasing a portion of this land since 2018. Prior to that, Dan Holman leased it.

Tri-Dam is not required by FERC, or any other agency to rent, lease, or provide access through this property for the purpose of building docks. If Tri-Dam is to continue leasing this property, all requirements related to public agencies would be applied. The lease amount would need to be determined by a competitive, sealed bid format. This would be open to all qualified applicants that meet pre-determined minimum experience, credit, insurance requirement, etc.

ATTACHMENTS: Aerial image of the Tulloch south shore property.

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

Tulloch Southshore Property



GENERAL MANAGER BOARD REPORT

Summer Nicotero
December 21, 2023

1. **THE ROCKS ARE GONE!!!!** Njirich and Sons cleared the rockfall and created a very clean rock pile with all types of rock for our use in the future. The road repairs contracted with SMCI are still underway but are also running ahead of schedule as a result of the mild weather. I am working with FEMA to ensure our reimbursement process goes smoothly but don't anticipate receiving any funds until 2024.
2. Our annual maintenance at Sandbar, Beardsley, and Donnells are complete with no significant issues found. The team was able to remediate items noted on FERC and DSOD inspections as well as perform general maintenance tasks. A big thank you to the maintenance and operations teams for prioritizing this work and completing tasks on schedule.
3. Finance Manager interviews were held in late November. The hiring committee identified a highly qualified candidate and extended a contingent job offer. We anticipate the pre-employment screening will be completed quickly and we will be welcoming a new member to the team on January 2nd. We are all very excited to fill this role, but nobody quite as much as Sharon. Her support and hours of hard work have been immensely appreciated. It is quite difficult to jump back and forth between our agency and OID but she did it well. I truly hope she can relax a little very soon!
4. Tulloch drawdown has progressed at a faster rate than previously planned due to USBR tunnel maintenance at Melones. We have updated our website and FERC with the amended drawdown schedule.
5. The islanding agreement with PG&E expires at the end of 2023. We are in the process of revising our agreement with SVP to reflect the new power purchase agreement structure. Once we complete the SVP review, we will approach PG&E to revise their agreement with the Project.
6. IBEW 1245 negotiations kicked off on December 12. Meeting dates have been set for the next two months.
7. The next Advisory Committee meeting is scheduled for Monday, January 8, 2023, at 3 pm at the OID office.



Cleared Peeled Onion Road



New Rock Pile

2023 Western Assessment of Resource Adequacy



LEARN
MORE



<https://www.wecc.org/Administrative/2023%20Western%20Assessment%20of%20Resource%20Adequacy.pdf>

OBJECTIVES

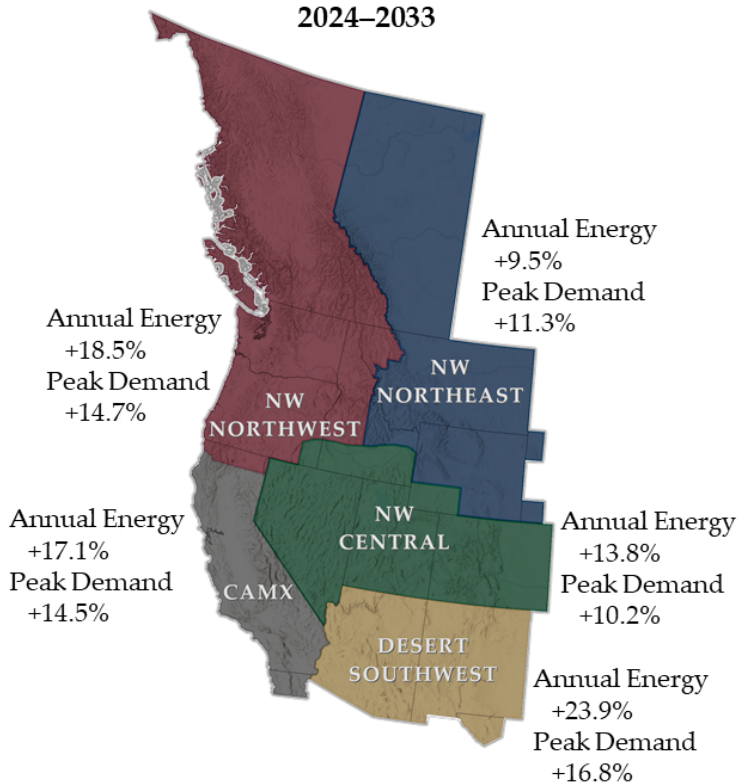
Resource planning decisions are made years before resources are needed, and the decisions entities make affect neighbors and the interconnection. A long-term, interconnection-wide, recurring assessment of resource adequacy helps ensure the reliability of the electric grid. WECC's Western Assessment of Resource Adequacy examines this issue and answers two questions:

- Are current resource plans sufficient to meet future demand for each of the next 10 years under the range of possible system conditions?
- How does variability in the system increase with changes in resources and demand currently reflected in resource plans, and how does this affect resource adequacy risk?

APPROACH

WECC examines resource adequacy through an energy-based probabilistic approach. The Western Assessment looks broadly at the Western Interconnection, as well as its five subregions. Using information about anticipated demand growth and planned resources from Balancing Authorities, WECC evaluates resource adequacy not only under expected future conditions, but across a range of possible conditions over the next 10 years.

Annual Energy and Peak Demand Growth 2024–2033



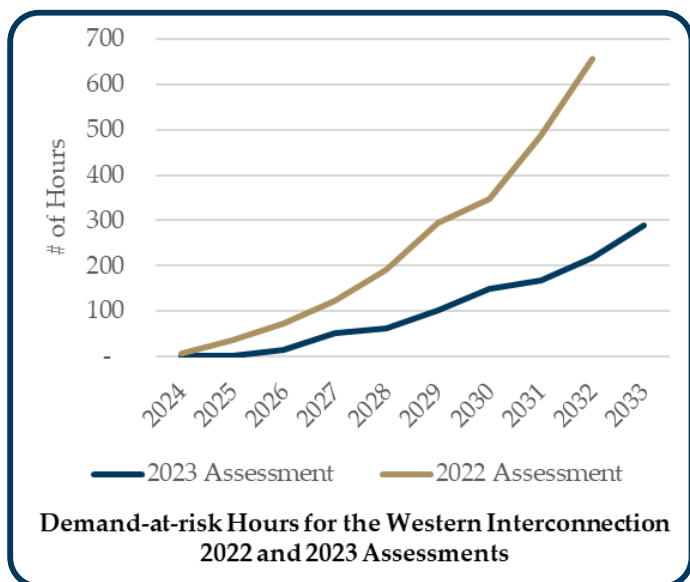
FINDINGS

Over the next decade, entities in the West plan to add 95 GW of resources, significantly more than what was built over the last 10 years. Solar, energy storage, and wind make up 80% of the new resources. Supply chain disruptions and the interconnection queue pose the greatest risk to building planned resources on time.

Load growth forecasts almost doubled in this year's assessment. In 2022, the anticipated 10-year load growth rate was 9.6%. This year's forecast 10-year growth rate is 16.8%. The new demand forecasts reflect electrification policies and significant data center growth.

Demand-at-risk hours over the next 10 years decreased compared to the 2022 Western Assessment, but they were not eliminated. The number of hours each year when there is a risk for load loss increases for each of the next 10 years.

With the large additions of variable generation planned for the next 10 years, variability in the system will continue to increase.



OPERATIONS SUPERVISOR BOARD REPORT

Brett Gordon
December 21, 2023

OPERATIONS:

Reservoir Data (A/F):

FACILITY	STORAGE	MONTH CHANGE
Donnells	25,130	(19,532)
Beardsley	56,650	6,987
Tulloch	35,666	(13,588)
New Melones	1,937,872	47,308

Outages:

Plant	Dates	Duration	Cause
No plant outages to report.			

Operations Report:

New Melones Inflows:

Total inflows for water year 23/24 as of November 30: 105,294 A/F.

District Usage:

Total District usage for the water year 23/24 as of November 30: 26,692 A/F.

Precipitation:

Total precipitation for the month of November: 2.64 inches.

Other Activities:

1. Daily checks all powerhouses.
2. Switching at Tulloch for PG&E transmission line work.
3. Restored Beardsley and Sandbar from annual maintenance.
4. Seasonal pulse flows for S-98 completed.
5. Annual deflection surveys for Donnells, Beardsley, the Afterbay and Tulloch dams completed.
6. Topographic survey conducted of Beardsley Dam along with a cross section for analysis per the 12th Part 12D recommendations.

BEARDSLEY PRECIPITATION

YEAR	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
1958-59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.40	1.39	1.40	1.04	0.00	11.23
1959-60	0.00	0.03	3.09	0.00	0.00	1.92	5.74	8.38	4.68	2.45	0.35	0.00	26.64
1960-61	0.05	0.00	0.44	0.63	5.33	2.43	1.60	3.04	4.96	1.49	1.84	0.29	22.10
1961-62	0.21	1.12	0.77	0.70	3.39	2.98	2.04	15.32	6.13	1.12	1.04	0.02	34.84
1962-63	0.30	0.16	0.35	2.98	1.05	2.66	5.91	8.37	6.08	8.24	3.70	0.74	40.54
1963-64	0.00	0.44	0.59	2.63	7.81	0.81	5.84	0.21	3.02	2.01	2.44	1.64	27.44
1964-65	0.00	0.00	0.34	2.08	7.40	17.93	5.90	1.34	2.44	5.27	0.32	0.29	43.31
1965-66	0.00	1.47	0.60	0.47	12.38	4.59	1.68	2.33	1.00	2.39	0.43	0.10	27.44
1966-67	0.13	0.00	0.28	0.00	7.55	8.48	8.77	0.67	10.02	10.25	2.04	1.05	49.24
1967-68	0.00	0.39	0.90	0.54	2.47	3.35	4.94	4.81	3.48	0.73	1.44	0.02	23.07
1968-69	0.10	0.65	0.00	2.12	6.22	8.28	19.45	8.35	1.88	3.39	0.21	0.39	51.04
1969-70	0.00	0.00	0.55	3.41	2.98	6.46	17.06	3.11	3.43	2.50	0.00	3.17	42.67
1970-71	0.00	0.00	0.00	0.91	10.71	8.44	2.83	1.16	4.87	1.49	1.80	0.77	32.98
1971-72	0.00	0.02	0.29	1.22	6.22	10.31	2.39	2.78	1.01	4.03	0.10	1.62	29.99
1972-73	0.00	0.58	0.17	1.85	6.27	5.57	12.08	12.06	5.31	1.11	0.72	0.74	46.46
1973-74	0.05	0.18	0.07	3.65	9.88	9.10	5.08	1.84	8.18	5.15	0.02	0.07	43.27
1974-75	2.57	0.10	0.00	2.82	2.38	4.95	4.25	10.16	9.90	5.41	0.84	0.63	44.01
1975-76	0.03	2.02	0.15	6.75	2.04	0.74	0.49	3.03	2.66	2.42	0.91	0.05	21.29
1976-77	0.10	2.43	1.00	0.93	1.54	0.24	2.50	2.68	2.06	0.25	4.65	0.38	18.76 RECORD LOW
1977-78	0.00	0.00	0.58	0.24	4.76	9.72	10.85	8.31	8.67	7.97	0.19	0.23	51.52
1978-79	0.08	0.00	3.98	0.07	3.17	4.43	8.45	7.60	6.05	1.86	2.88	0.02	38.59
1979-80	0.17	0.03	0.00	4.66	4.63	5.22	14.62	13.03	3.61	3.09	4.33	0.77	54.16
1980-81	0.43	0.02	0.03	0.71	0.58	3.04	8.05	2.69	6.26	1.67	1.42	0.00	24.90
1981-82	0.06	0.00	0.15	5.27	8.76	8.39	6.08	8.08	11.23	8.19	0.12	1.34	57.67
1982-83	0.03	0.02	4.02	8.78	11.30	7.32	10.83	14.34	12.86	6.29	0.74	0.12	76.65 RECORD HIGH
1983-84	0.01	0.09	3.86	1.35	16.44	12.75	0.27	5.51	3.56	2.70	0.84	1.31	48.69
1984-85	0.00	0.05	0.73	3.97	10.28	2.58	1.52	3.13	5.84	0.86	0.07	0.28	29.31
1985-86	0.30	0.12	2.64	3.09	7.71	4.52	4.70	21.98	8.43	2.37	1.58	0.00	57.44
1986-87	0.02	0.00	2.18	0.00	0.49	0.73	3.42	5.89	5.21	0.79	1.63	0.15	20.51
1987-88	0.00	0.00	0.00	2.19	2.22	5.79	5.42	0.88	0.73	3.15	1.66	0.79	22.83
1988-89	0.00	0.00	0.05	0.07	6.96	4.29	1.45	2.73	10.08	1.41	0.74	0.02	27.80
1989-90	0.00	0.33	3.28	4.30	3.02	0.00	4.75	3.40	2.75	1.66	3.46	0.21	27.16
1990-91	0.00	0.11	0.59	0.41	1.62	1.30	0.40	1.79	16.08	1.74	2.54	1.54	28.12
1991-92	0.17	0.10	0.32	5.54	2.32	3.10	1.97	7.68	4.58	0.45	0.45	1.66	28.34
1992-93	3.26	0.35	0.00	3.05	0.44	9.61	12.19	8.74	6.29	2.07	1.24	2.43	49.67
1993-94	0.00	0.00	0.00	1.25	2.11	1.97	2.93	7.08	0.86	3.71	2.22	0.00	22.13
1994-95	0.00	0.00	0.77	2.82	7.92	3.68	18.32	1.14	18.76	6.98	6.72	1.02	68.13
1995-96	0.05	0.00	0.00	0.00	0.35	9.13	10.32	11.17	6.81	3.94	5.51	1.24	48.52
1996-97	0.05	0.01	0.23	2.55	7.14	16.19	18.16	0.80	0.53	0.82	0.51	1.24	48.23
1997-98	0.17	0.00	0.33	1.39	4.99	3.70	12.86	16.30	6.69	4.94	6.46	1.35	59.18
1998-99	0.00	0.00	2.84	0.49	5.12	3.13	8.93	9.71	2.63	3.03	1.28	1.03	38.19
1999-00	0.00	0.13	0.18	1.05	3.51	0.51	11.68	14.13	2.58	3.70	2.72	1.06	41.25
2000-01	0.00	0.07	0.96	3.17	1.01	1.59	4.69	4.70	3.08	5.39	0.00	0.07	24.73
2001-02	0.02	0.00	0.60	1.17	6.97	9.75	2.56	2.13	6.88	2.29	2.02	0.00	34.39
2002-03	0.00	0.00	0.09	0.00	7.42	11.17	1.12	3.50	3.81	9.36	2.69	0.00	39.16
2003-04	0.09	1.32	0.06	0.00	2.88	9.97	2.79	8.52	1.07	0.17	0.55	0.02	27.44
2004-05	0.02	0.00	0.19	7.66	2.93	6.67	10.52	6.95	9.35	3.35	5.76	0.80	54.20
2005-06	0.00	0.11	0.71	1.70	3.34	17.72	7.75	5.26	10.14	10.55	1.97	0.10	59.35
2006-07	0.08	0.00	0.01	1.53	3.56	5.25	2.08	8.70	1.30	2.61	1.33	0.10	26.55
2007-08	0.01	0.17	0.34	1.02	0.95	5.01	10.15	6.69	0.87	0.26	2.85	0.00	28.32
2008-09	0.00	0.00	0.00	1.65	6.17	5.08	5.88	6.98	6.78	1.97	3.37	0.79	38.67
2009-10	0.00	0.10	0.00	4.37	1.31	5.89	7.97	5.86	4.92	6.66	3.65	0.06	40.79
2010-11	0.00	0.00	0.00	8.67	7.15	14.21	2.15	5.76	15.22	1.94	2.94	3.21	61.25
2011-12	0.00	0.00	1.56	3.13	1.77	0.00	6.25	1.62	5.96	4.76	0.37	0.92	26.34
2012-13	0.00	0.00	0.00	1.27	5.78	12.56	0.64	0.93	3.26	1.11	1.48	0.80	27.83
2013-14	0.00	0.00	0.72	0.56	1.80	1.22	1.59	9.23	6.17	3.43	0.98	0.05	25.75
2014-15	0.52	0.03	1.03	0.15	3.72	7.25	0.13	4.49	0.43	3.08	2.75	0.80	24.38
2015-16	0.39	0.00	0.11	2.26	5.36	9.74	9.53	1.74	9.19	3.13	1.82	0.34	43.61
2016-17	0.00	0.00	0.00	7.26	3.19	8.30	22.25	20.47	5.49	8.06	0.59	0.46	76.07
2017-18	0.00	0.09	1.44	0.50	7.34	0.42	5.20	0.76	14.50	3.70	1.02	0.00	34.97
2018-19	0.00	0.00	0.00	1.92	8.21	3.07	9.84	15.37	8.97	2.07	7.43	0.46	57.34
2019-20	0.00	0.00	0.63	0.00	1.39	10.58	2.09	0.08	7.50	3.87	3.09	0.33	29.56
2020-21	0.00	0.23	0.10	0.00	2.38	3.40	7.28	2.44	2.83	1.31	0.18	0.00	20.15
2021-22	0.09	0.00	0.18	7.51	0.95	13.37	0.04	0.36	0.96	4.14	0.39	0.31	28.30
2022-23	0.00	0.29	2.27	0.02	3.83	12.65	21.85	5.43	15.48	0.22	1.12	1.10	64.26
2023-24	0.00	1.27	1.51	0.25	2.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.67 Current Year
Average	0.15	0.21	0.74	2.23	4.70	6.18	6.74	6.15	5.88	3.38	1.88	0.63	38.87
2022-23 +/-	(0.15)	1.06	0.77	(1.98)	(2.06)	(6.18)	(6.74)	(6.15)	(5.88)	(3.38)	(1.88)	(0.63)	(33.20)

ANNUAL AVERAGE **38.87**

INCHES +/- ANNUAL AVERAGE **(33.20)**

Updated as of 12-Dec-23

PERCENT OF ANNUAL AVERAGE **15%**

MAINTENANCE SUPERVISOR BOARD REPORT

Daniel Hogue
December 21, 2023

1. Received and installed custom manufactured snow blower axle shafts back from Branik, Inc. Axle shafts had to be custom made because parts for our blower are no longer available due to the age of the machine (1962). Damage occurred during last winter's road clearing season.
2. Completed the Beardsley spillway Part 12D concrete repairs, R-2 and R-4 to include repairs of the open joints in the head gate structure and counterfort wall at the left spillway approach channel, and the cracking/spalling of the concrete at the base of the right spillway wall where the construction joint meets the slab. Able to complete some of the more challenging repairs in-house using skills acquired at the SPAT training course.
3. Donnells dam annual maintenance completed and prepared the site for winter. Maintenance included but not limited to mini-hydro service, primary inverter removed and replaced. Old primary moved to back-up and 2023 back-up decommissioned, building heaters serviced and lit, and big generator serviced. Donnells cottage winterized.
4. Beardsley annual maintenance completed. Highlights were completing protective relay, main transformer, and interconnection relay testing as required by our interconnection agreement. In addition, Segrity came onsite and conducted training as well as governor tuning.
5. Sandbar annual maintenance completed. Highlights were completing protective relay, main transformer, and interconnection relay testing as required by our interconnection agreement. Re-plumbed a portion of the TSV water circuit that had been springing leaks throughout the year.
6. Applied grip tape on stair treads in Beardsley powerhouse.
7. Tulloch Day Use back flow device was found damaged. We were able to repair and restore water to the restroom. Once water was restored found leaking solenoid valve to the toilet.
8. Found Beardsley Dam tunnel pump flow meter strainer plugged causing restriction and allowing water flow into the sump. Cleaned and repaired.
9. Picked up a load of de-icing sand and loaded into equipment building in preparation for winter.
10. Beardsley governor oil pump #1 solenoid valve burnt. Removed and replaced with new to return both pumps to good working order.
11. Temporarily repaired solenoid valve at Sandbar intake trash rack. The existing valve is no longer made so a suitable substitute was sourced and ordered.
12. Beardsley sump pump check valve found bad causing erratic false feedback from sump oil detector. Removed and replaced check valve components.
13. FEMA site 1 completed and Site 6 repairs in full swing.
14. Donnells Part 12D R5 completed. The leak investigation determined that the water is not from the penstock and is ground water. Weir Reading at 1.2 prior to dewater and 1.2 48 hours after dewater. Penstock repainted in noted areas.

REGULATORY AFFAIRS BOARD REPORT

Justin Calbert
December 21, 2023

FERC Compliance

- Coordination, planning and permitting for the Tulloch Reservoir Shoreline Erosion & Day Use Remediation project.
- Receive and review quotes and proposals for the FERC required Cultural Monitoring and Reporting for Projects 2067 and 2005.
- Modified Tulloch drawdown schedule due to USBR's Melones tunnel outage. Website updated, notifications sent including email to Tulloch distribution list, area agencies and FERC submittal.

Permit and Other Assignments

- Work on permits, site reviews, and compliance questions for various properties at Tulloch.
- Respond to daily inquiries from the public, contractors, and partnering government agencies.
- Permits, inspections, and file documentation. To date, 45 applications have been issued in the 2023 calendar year. For current Board Meeting Period (November 17 – December 21): 6 new Tulloch encroachment permits issued. 0 permit final inspections passed. 3 applications in process, awaiting proper submittal requirements.
- Pre-construction site meetings with contractors and property owners.
- Working on pending litigation matters, as required.
- Tulloch South Shore property lease discussions.
- Contacting property owners and contractors regarding the unauthorized moving of docks due to the low-level drawdown at Tulloch.
- Tulloch Encroachment Permit Variance Application.



Tri-Dam Project Generation & Revenue Report 2023

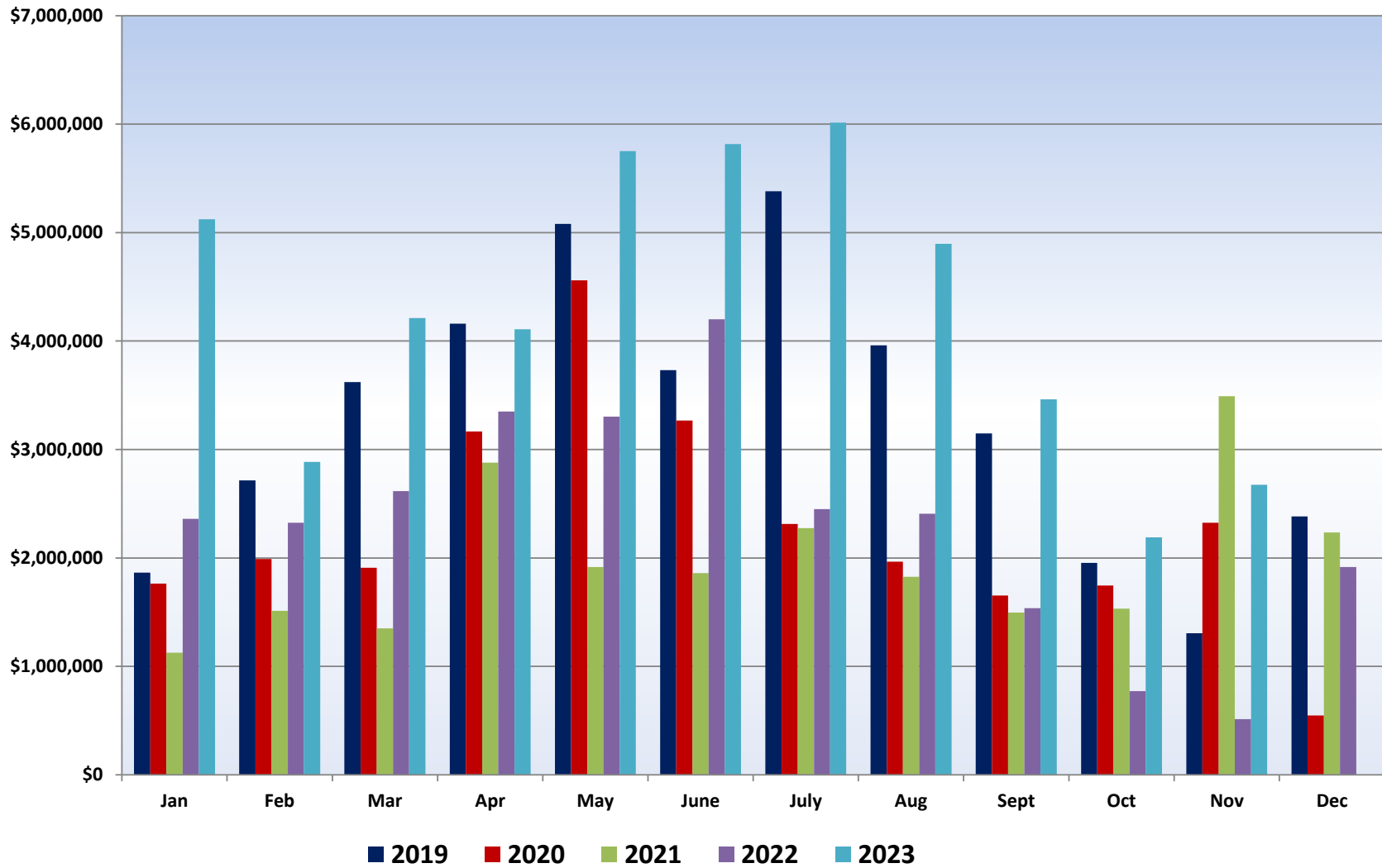
	Donnells				Beardsley				Tulloch				Project Total			
	Average Generation (1958-2018)	2023 Net Generation (kWh)	Avoided Generation (kWh)	2023 Energy Revenue	Average Generation (1958-2018)	2023 Net Generation (kWh)	2023 Energy Revenue	Average Generation (1958-2018)	2023 Net Generation (kWh)	2023 Energy Revenue	Average Generation (1958-2018)	2023 Net Generation (kWh)	2023 Energy Revenue	Average Generation (1958-2018)	2023 Net Generation (kWh)	2023 Energy Revenue
JAN	17,389,989	50,302,120	-	\$4,024,170	3,150,048	8,075,579	\$646,046	4,271,885	5,667,702	\$453,416	24,811,922	64,045,400	\$5,123,632	24,811,922	64,045,400	\$5,123,632
FEB	17,229,608	26,972,429	-	\$2,157,794	2,927,753	7,428,960	\$594,317	5,024,913	1,668,267	\$133,461	25,182,274	36,069,657	\$2,885,573	25,182,274	36,069,657	\$2,885,573
MAR	23,070,659	34,546,717	-	\$2,763,737	3,584,274	8,181,638	\$654,531	7,580,691	9,910,971	\$792,878	34,235,623	52,639,326	\$4,211,146	34,235,623	52,639,326	\$4,211,146
APR	31,686,865	27,387,689	1,387,619	\$2,302,025	4,717,464	8,113,601	\$649,088	10,811,027	14,474,823	\$1,157,986	47,215,356	49,976,113	\$4,109,099	47,215,356	49,976,113	\$4,109,099
MAY	41,216,149	25,033,384	22,196,483	\$3,778,389	5,799,593	8,186,918	\$654,953	12,131,040	16,481,291	\$1,318,503	59,146,782	49,701,593	\$5,751,846	59,146,782	49,701,593	\$5,751,846
JUN	42,555,036	35,463,600	11,336,400	\$3,744,000	6,336,073	8,112,548	\$649,004	12,084,818	17,794,079	\$1,423,526	60,975,928	61,370,227	\$5,816,530	60,975,928	61,370,227	\$5,816,530
JUL	36,444,466	34,600,702	13,759,298	\$3,868,800	6,629,514	8,390,128	\$671,210	12,609,174	18,429,795	\$1,474,384	55,683,154	61,420,625	\$6,014,394	55,683,154	61,420,625	\$6,014,394
AUG	27,568,740	34,539,443	-	\$2,763,155	6,269,748	8,342,300	\$667,384	11,868,293	18,323,532	\$1,465,883	45,706,781	61,205,275	\$4,896,422	45,706,781	61,205,275	\$4,896,422
SEP	20,111,167	24,821,749	-	\$1,985,740	5,223,523	7,518,014	\$601,441	8,577,620	10,939,478	\$875,158	33,912,310	43,279,241	\$3,462,339	33,912,310	43,279,241	\$3,462,339
OCT	12,743,535	16,013,949	-	\$1,281,116	3,752,220	2,607,921	\$208,634	4,664,124	8,757,756	\$700,620	21,159,879	27,379,626	\$2,190,370	21,159,879	27,379,626	\$2,190,370
NOV	12,042,987	29,110,490	-	\$2,328,839	2,794,775	3,050,898	\$244,072	2,487,256	1,275,703	\$102,056	17,325,019	33,437,091	\$2,674,967	17,325,019	33,437,091	\$2,674,967
DEC	14,354,891	-	-	\$0	3,713,920	-	\$0	3,288,702	-	\$0	21,357,513	-	\$0	21,357,513	-	\$0
Total	296,414,092	338,792,273	48,679,800	\$30,997,766	54,898,907	78,008,504	\$6,240,680	95,399,542	123,723,397	\$9,897,872	446,712,540	540,524,174	\$47,136,318	446,712,540	540,524,174	\$47,136,318

Note: Price per MWh is \$80.00

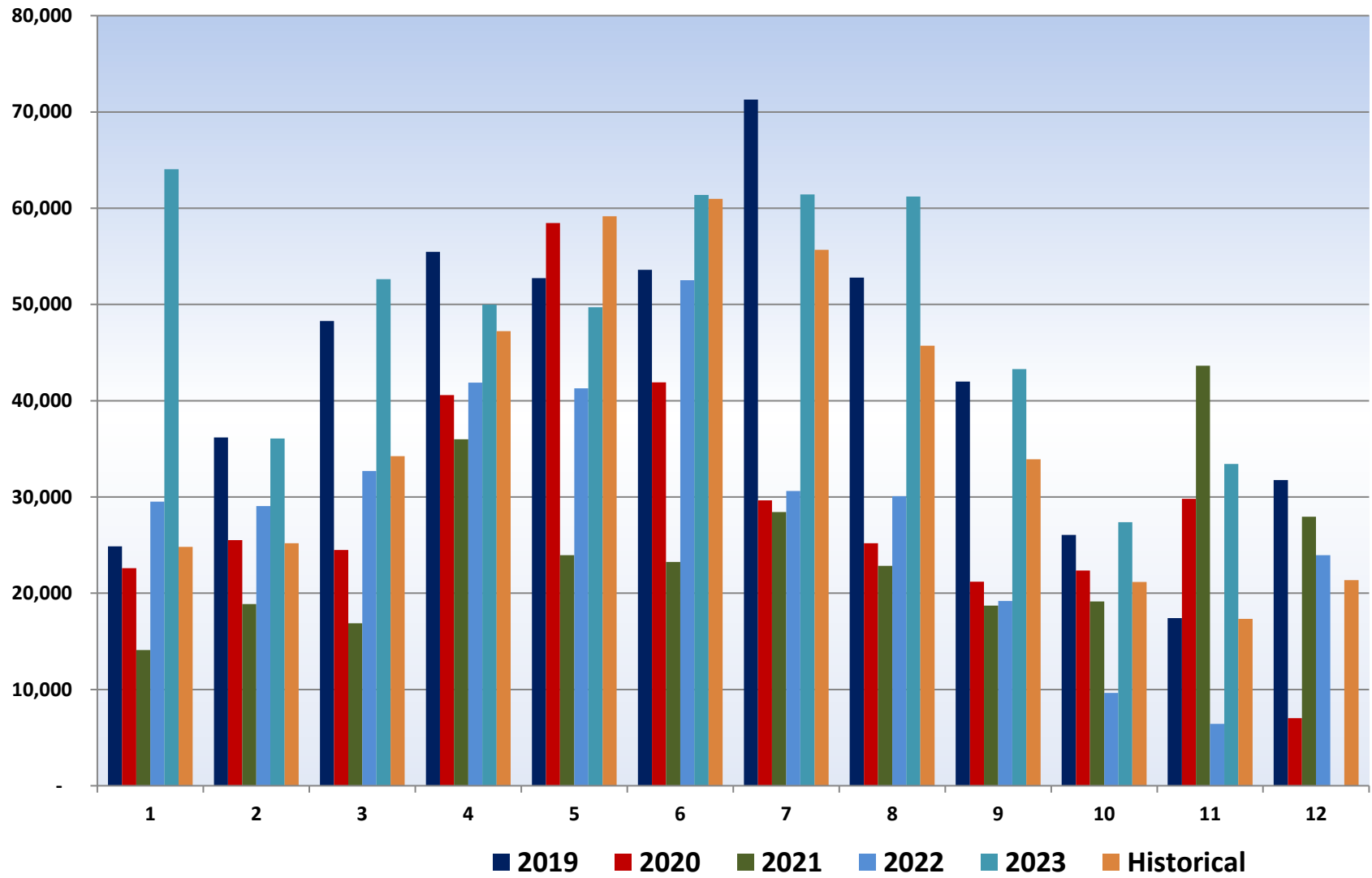
Tri-Dam Power Authority - Sand Bar

	Average Generation (1958-2018)	2023 Net Generation (kWh)	Avoided Generation (kWh)	2023 Energy Revenue	PG&E Coordination Payment		Total Revenue
JAN	4,663,654	11,625,894	-	\$930,072	\$0	\$0	\$930,072
FEB	3,946,606	10,595,708	-	\$847,657	\$0	\$0	\$847,657
MAR	5,290,014	11,889,429	-	\$951,154	\$0	\$0	\$951,154
APR	6,873,822	10,211,311	1,325,750	\$922,965	\$0	\$0	\$922,965
MAY	8,065,189	11,577,399	-	\$926,192	\$0	\$0	\$926,192
JUN	8,750,023	11,516,386	-	\$921,311	\$0	\$0	\$921,311
JUL	9,133,101	11,900,588	-	\$952,047	\$0	\$0	\$952,047
AUG	8,560,581	11,898,964	-	\$951,917	\$0	\$0	\$951,917
SEP	6,928,285	11,004,784	-	\$880,383	\$0	\$0	\$880,383
OCT	4,898,944	5,592,716	-	\$447,417	\$0	\$0	\$447,417
NOV	2,947,604	4,359,525	-	\$348,762	\$0	\$0	\$348,762
DEC	5,554,123	-	-	\$0	\$0	\$0	\$0
Total	75,611,948	112,172,703	1,325,750	\$9,079,876	\$0	\$0	\$9,079,876

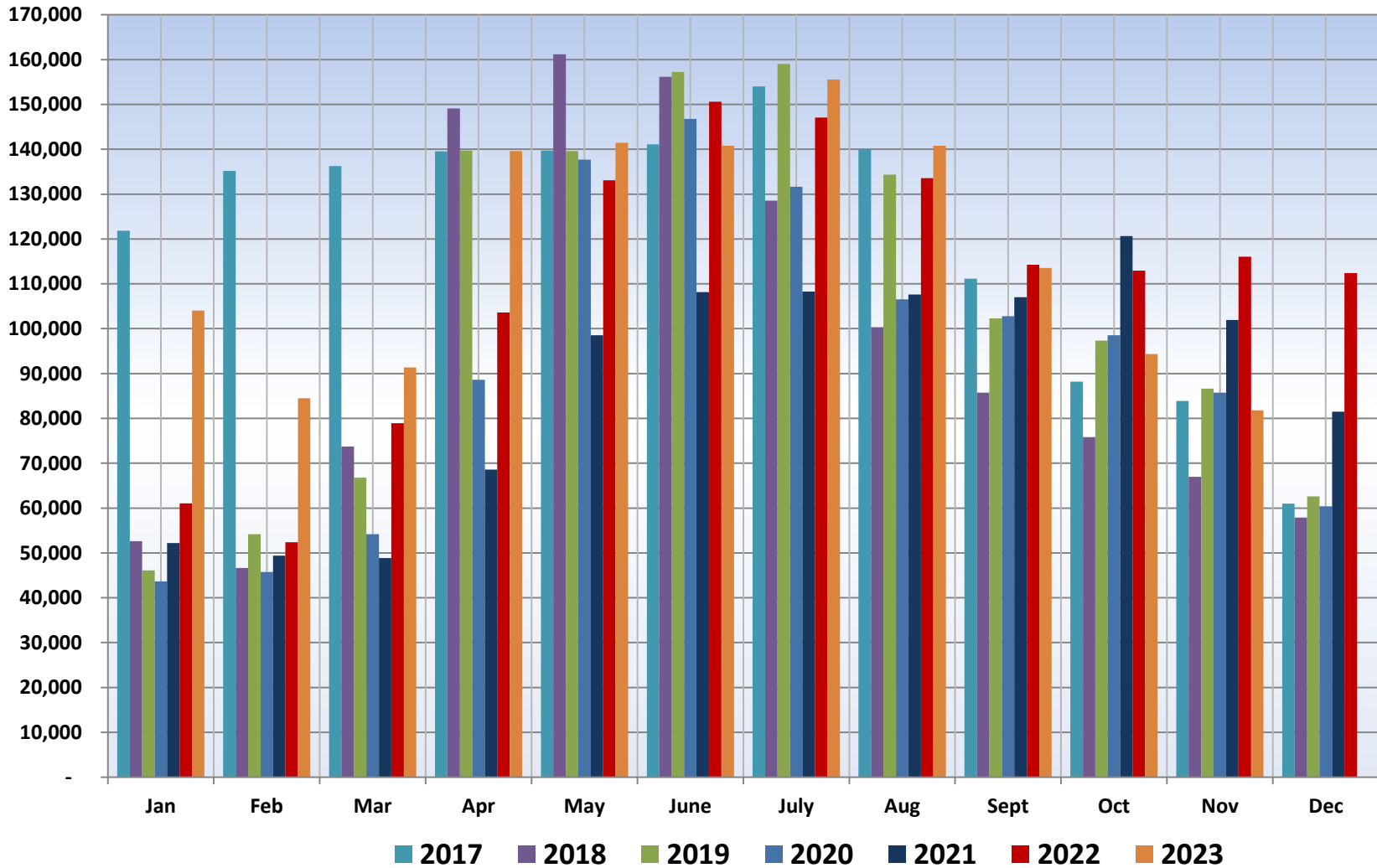
Tri-Dam Project Generation Revenue



Tri-Dam Project Total Generation - MWh



Tri-Dam Project Storage AF - Donnells & Beardsley





Welcome to Water Year 2024! We’ve finished the December 1, 2023 Water Supply Index (WSI) forecast. These forecasts include observed conditions through the end of November.

The WSI forecasts are posted at: <https://cdec.water.ca.gov/reportapp/javareports?name=WSI>

Forecast Summary:

The forecast for the Sacramento Valley Water Supply Index is “Below Normal” and the forecast for the San Joaquin Valley Water Supply Index is “Dry” due in large measure to lower-than-average precipitation in October and November despite both indices being categorized as wet last year.

The WSI forecast is based on the precipitation and runoff (full natural flow) through November 30, 2023 and can be summarized as follows:

Sacramento River Unimpaired Runoff Water Year Forecast (50 percent exceedance)	13.9 (79 percent of average)
Sacramento Valley Index (SVI) (50 percent exceedance)	7.22 (Below Normal)
San Joaquin Valley Index (SJI) (75 percent exceedance)	2.35 (Dry)

Runoff:

After a historic water year which included a late season tropical storm impacting Southern California and the Southern Sierra, river flows for October were higher than expected despite the well below average precipitation for the month. While most northern and central basins were around average, in the southern Sierras many basins were flowing at several times the monthly average. During November, flows decreased considerably with all the northern and most of central basins below average for the month. In the Tulare Basin, the Kern and Tule, are still flowing near 200 percent of average but the Kings and Kaweah have fallen to around average for the month.

Unimpaired flows in Percent of Average for Water Year 2024:

River	Oct	Nov	Dec (Month to Date)
Trinity	81	63	34
Shasta	84	75	43
Sacramento at Bend Bridge	80	79	36
Feather	112	98	42
Yuba	106	77	30
American	108	72	26
Sacramento Region	90	83	
Cosumnes	273	137	20

Mokelumne	92	83	28
Stanislaus	94	61	21
Tuolumne	87	57	19
Merced	97	82	23
San Joaquin	175	125	58
San Joaquin Region	120	84	
Kings	208	105	50
Kaweah	191	117	33
Tule	526	189	72
Kern	226	198	161
Tulare Region	223	143	

Precipitation:

The entire state has started the new water year off with below average precipitation. California has experienced a few storm systems so far, but none have brought significant precipitation. Another storm system will be moving across the top of the northern coast, however it likely will not impact the entire state. Thus, the state will likely remain below average precipitation for the month for the three major indices. As of December 8, the Northern Sierra 8-Station Index stands at 17 percent of average while the San Joaquin 5-Station Index and the Tulare Basin 6-Station Index are lower - at 4 and 0 percent of average, respectively.

Precipitation for Water Year 2024 accumulated at the following rates of average:

Region	% of Average			Precipitation Index (inches)		
	Oct	Nov	Dec 8 (Month to Date)	WY to Date	Dec 8 (Month to Date)	WY to Date
Northern Sierra 8-Station Index	28	60	17	52	1.7	5.6
San Joaquin 5-Station Index	9	54	4	31	0.3	2.3
Tulare Basin 6-Station Index	16	38	0	24	0.0	1.2

Monthly Precipitation in Percent of Average for Water Year 2024 by Hydrologic Region

Hydrologic Region	Oct	Nov
North Coast	59	66
San Francisco Bay	29	65
Central Coast	10	47
South Coast	14	64
Sacramento River	41	50
San Joaquin River	18	55
Tulare Lake	35	28
North Lahontan	49	71
South Lahontan	13	38
Colorado River	0	113
Statewide Weighted Average	36	56

Snowpack:

As of the morning of December 8, statewide snowpack is currently 37 percent of average to date. The snow water content is 47, 41, and 19 percent of average for the date in the northern, central, and southern Sierra, respectively.

The snowpack as of the morning of December 8, 2023 stands at the following (based on snow sensors)

Region	No. of Stations	Snow Water Equivalent (inches)	% Average (Apr 1)	% of Average (Dec 8)
Northern	30	1.8	7	47
Central	53	1.9	7	41
Southern	26	0.7	3	19
Statewide	109	1.6	6	37

Reservoir Storage:

After a historically wet water year that saw the highest snowpack in at least 40 years, reservoir storage is well above average across the state except for the North Coast which is at 90 percent of average. Statewide totals are 121 percent of average and a large increase from early last water year.

Summary of Storage in Major Reservoirs as of November 30, 2023

Hydrologic Region	Number of Reservoirs	Total Capacity (TAF)	Historical Avg (TAF)	2023 (TAF)	2024 (TAF)	% Avg	% Capacity
North Coast	6	3096.2	1705.5	706.2	1542.7	90	50
San Francisco Bay	17	710.7	412.3	411.5	461.3	112	65
Central Coast	6	982.1	443.8	192.2	657.2	148	67
South Coast	29	2106.1	1237.3	920.3	1372.6	111	65
Sacramento	43	16150.8	8725.9	6198.1	10581.3	121	66
San Joaquin	34	11483.2	6158.4	4247.3	7747.1	126	67
Tulare Lake	6	2087.5	556.7	330.5	944.0	167	45
North Lahontan	5	1073.3	397.6	118.0	756.2	190	70
South Lahontan	8	411.6	256.1	231.8	336.1	131	82
Total	154	38102.0	19903.7	13355.9	24156.9	121	63

Weather and Climate Outlooks:

According to the CNRFC 6-day forecast, there is little to no precipitation forecasted across the state except for a storm that will clip the top of the Northern Coast on Sunday. The Northern Coast may see up to 0.6 inches of rain in parts. Freezing elevations are currently between 8,000 and 10,000 feet. These values will rise slightly over the next three days up to 12,000 feet across most of the state over the weekend.

The NWS Climate Prediction Center (CPC) one-month outlook for December 2023, issued on November 30, 2023, predicts increased chances of above normal temperatures for the far-northern portion of California and equal chances of above or below normal temperatures elsewhere. The same outlook predicts increased chances of above normal precipitation for the far-northern portion of California and equal chances of above or below normal precipitation elsewhere.

The CPC three-month (December-January-February) outlook, issued November 16, 2023, predicts increased chances of above normal temperatures for the entire state except for the Colorado River region along the California-Arizona border which will see equal chances of above or below normal temperatures. The same outlook predicts increased chances of above normal precipitation statewide.

According to the latest El Niño/Southern Oscillation (ENSO) discussion issued by the Climate Prediction Center on December 4, 2023, El Niño conditions are observed. Equatorial sea surface temperatures (SSTs) are above average across the central and eastern Pacific Ocean. The tropical Pacific atmosphere anomalies are consistent with El Niño. El Niño is anticipated to continue through the Northern Hemisphere spring (with a 62% chance during April-June 2024).

Subseasonal to Seasonal (S2S) Forecasts (from Center for Western Weather and Water Extremes (CW3E)):

The December 1, 2023 CW3E S2S Outlook says: Week 2 forecasts (Dec 8-14): Models generally agree on low likelihood (< 30% probability) activity over Southern and Central California.

Models agree on strong Madden-Julian Oscillation (MJO) activity over the Maritime Continent during early Week 2 which is historically associated with an increased likelihood of wet extremes in Central and Southern California in the following weeks.

Ridging outlooks show high likelihood of persistent ridging activity across the southwestern US during weeks 1-2, but the International Research Institute for Climate and Society (IRI) weather regime outlooks show high likelihood of a Pacific Trough.

Week 3 forecasts (Dec 15-21): Models disagree on the likelihood of AR activity over California.

Uncertainty in frequency and location of ridging activity during Weeks 3-4.

Next Update:

The next WSI forecast for conditions as of January 1, 2024 will be available by Tuesday, January 9, 2024. The first Bulletin 120 (B120) forecast of the new water year, for conditions as of February 1, 2024, will be available on Thursday, February 8, 2024. If you have any questions regarding this forecast, please contact a member of the Snow Surveys and Water Supply Forecasting Unit.

Interpreting Bulletin 120 and Water Supply Index Water Supply Forecasts:

All forecasts have uncertainty. For water supply forecasts, the sources of uncertainty include unknown future weather, model simplifications, and data limitations. To express this uncertainty, the forecast is presented not as a single value but as a range of values, each with a specific probability of occurrence. The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts generally become more accurate tightening the spread among these values.

The Bulletin 120 provides a range of possible volumes of water that might show up in the April through July time period. It uses three points to characterize this range of outcomes: a 50% exceedance (median), a 10% exceedance, and a 90% exceedance. The median forecast is a value that represents where half the outcomes are expected to be above, and half are expected to be below. The 10% exceedance represents a higher end of the range where only 1 in 10 events would be expected to be higher. The 90% exceedance is a low mark where only 1 in 10 events would be expected to be lower. The space between these points represents 80% of the expected outcomes and is often referred to as the 80% confidence interval. These three points provide a guide for water resources planning covering the range of possible outcomes that may still transpire as the wet season winds down and the snowmelt season begins. There is still a 20% chance that the actual streamflow volume will fall either below the 90% exceedance forecast or above the 10% exceedance forecast.

Banner Photo:

The banner photo is of Donner Lake after a fresh dusting of snow from the most recent storm activity. Photo was taken on December 8, 2023. Photo courtesy of Devon Eckberg, California DWR.

Bulletin 120 and Water Supply Index Forecast Schedule - Water Year 2024:

Forecast Type	Forecast Date	Issue Date	Issue Day of Week
WSI	12/1/2023	12/8/2023	Friday
WSI	1/1/2024	1/9/2024	Tuesday
Bul 120 & WSI	2/1/2024	2/8/2024	Thursday
Bul 120 update	2/13/2024	2/15/2024	Thursday
Bul 120 update	2/20/2024	2/22/2024	Thursday
Bul 120 update	2/27/2024	2/29/2024	Thursday
Bul 120 & WSI	3/1/2024	3/8/2024	Friday
Bul 120 update	3/12/2024	3/14/2024	Thursday
Bul 120 update	3/19/2024	3/21/2024	Thursday
Bul 120 update	3/26/2024	3/28/2024	Thursday

Bul 120 & WSI	4/1/2024	4/8/2024	Monday
Bul 120 update	4/9/2024	4/11/2024	Thursday
Bul 120 update	4/16/2024	4/18/2024	Thursday
Bul 120 update	4/23/2024	4/25/2024	Thursday
Bul 120 & WSI	5/1/2024	5/8/2024	Wednesday
Bul 120 update	5/14/2024	5/16/2024	Thursday
Bul 120 update	5/21/2024	5/23/2024	Thursday
Bul 120 update	5/28/2024	5/30/2024	Thursday
Bul 120 update	6/4/2024	6/6/2024	Thursday
Bul 120 update	6/11/2024	6/13/2024	Thursday
Bul 120 update	6/18/2024	6/20/2024	Thursday
Bul 120 update	6/25/2024	6/27/2024	Thursday

Important Links:

SnowTrax: * NEW *** ← Just launched in November 2023**

[Bulletin 120 Forecast Verification Dashboard](#) *** NEW ***

[Snow Product Comparison Dashboard](#) *** NEW ***

[Snow Water Equivalent 3-Dimensional Dashboard \(SWE 3D\)](#) *** NEW ***

[Aerial Remote Sensing of Snow Program Flights and SWE Estimates Dashboard](#) *** NEW ***

Full Natural Flow Data:

[Daily FNF](#)

[Monthly FNF](#)

[Seasonal FNF](#)

Precipitation Data:

[Latest Northern Sierra 8-Station Precipitation Index Tabular Data](#)

[Latest San Joaquin 5-Station Precipitation Index Tabular Data](#)

[Latest Tulare Basin 6-Station Precipitation Index Tabular Data](#)

[Latest Northern Sierra 8-Station Precipitation Index Plot](#)

[Latest San Joaquin 5-Station Precipitation Index Plot](#)

[Latest Tulare Basin 6-Station Precipitation Index Plot](#)

Snow Data:

[Latest Snow Sensor Report](#)

[Latest Statewide Summary of Snow Water Equivalents](#)

Extended Regional Forecasts:

[California Nevada River Forecast Center 6 Day QPF and Snow Level Forecast](#)

[Climate Prediction Center One-Month Outlook Forecasts](#)

[Climate Prediction Center Three-Month Outlook Forecasts](#)

[U.S. Seasonal Drought Outlook](#)

[Weather Forecast Office California Service Area-Products](#)

[El Niño Southern Oscillation \(ENSO\) Conditions and Weekly Discussion \(including La Niña\)](#)

[Atmospheric River Scale Forecast Products](#)

[CW3E Subseasonal to Seasonal Forecasts](#)

Other Useful Links:

[California Water Watch](#)

[U.S. Department of Agriculture California Climate Hub by California State Climatologist](#)

Snow Surveys and Water Supply Forecasting Unit Contact Information:

Sean de Guzman, Manager	sean.deguzman@water.ca.gov	(916) 885-8993
Andy Reising	andrew.reising@water.ca.gov	(916) 914-0050
Anthony Burdock	anthony.burdock@water.ca.gov	(916) 914-0051
Jacob Kollen	jacob.kollen@water.ca.gov	(916) 914-0028
Jordan Thoennes	jordan.thoennes@water.ca.gov	(916) 885-8992
Steve Nemeth	stephen.nemeth@water.ca.gov	

California Cooperative Snow Surveys Unit Contact Information:

Ramesh Gautam, Manager	ramesh.gautam@water.ca.gov	(916) 699-8377
Lauren Alkire	lauren.alkire@water.ca.gov	(916) 914-0054
Devon Eckberg	devon.eckberg@water.ca.gov	(916) 837-5686

WESTERN PRICE SURVEY

[7] National Natural Gas Storage Starts Heating Season With Ample Inventory

The 2023-2024 winter heating season kicked off with 3,776 Bcf of natural gas in national storage—the most gas in storage at the start of winter since 2020, according to the U.S. Energy Information Administration.

There is now 7 percent more working natural gas in storage than on Oct. 31, 2022, which the EIA attributes in part to “a mild 2022-23 heating season.” “U.S. natural gas inventories climbed quickly in the spring and early summer,” the agency said.

The winter heating season spans Nov. 1 to March 30.

“Although the end of the U.S. natural gas storage injection season is traditionally defined as October 31, net injections often occur in November,” the EIA said in a Dec. 7 report. “Working natural gas storage peaked at 3,836 Bcf in 2023, during the week ending November 24—303 Bcf above the five-year average.”

National working natural gas in storage was 3,719 Bcf as of Dec. 1, a net decrease of 117 Bcf compared with the previous week, the EIA said.

A total of 9 Bcf of natural gas was withdrawn from Pacific region storage, bringing available supplies to 289 Bcf. This is 32.6 percent more than the amount in storage a year ago.

Western natural gas values plummeted in Nov. 30 to Dec. 7 trading. Five hubs in the Pacific Northwest and northern California lost more than \$2, led by Opal natural gas, which dropped \$2.21 to \$2.77/MMBtu.

Hubs lost most of their value between Dec. 5 and Dec. 7. The Opal, Stanfield and Malin natural gas hubs, for example, dropped roughly \$3 in that period. PG&E CityGate gas posted the highest regional price at \$3.99/MMBtu after losing \$1.15 over trading.

There was little support for energy prices with less heating demand, the EIA noted. Natural gas use in the Pacific Northwest fell 18 percent, or 0.6 Bcf per day, between Nov. 29 and Dec. 6, which the agency attributed to a 33-percent drop in residential- and commercial-sector use.

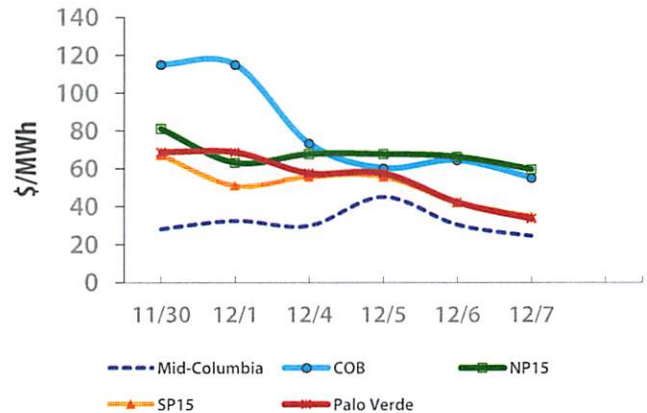
Demand on the California Independent System Operator grid peaked at 28,015 MW Dec. 6, which was expected to be the week’s high. Demand is likely to taper off into the week of Dec. 11.

In the Southwest, El Paso Natural Gas Co. on Dec. 7 “issued a notice of a high linepack condition due to lower natural gas deliveries and higher supply receipts.” Maintenance on EPNG’s system also contributed to reduced capacity. By Dec. 7, El Paso-Permian Basin gas was trading at 11 cents/MMBtu.

Western power prices followed suit. California-Oregon Border daytime power plunged \$60, ending at \$55/MWh, while Mid-Columbia nighttime power fell almost \$71 to \$45.55/MWh. —**Linda Dailey Paulson**

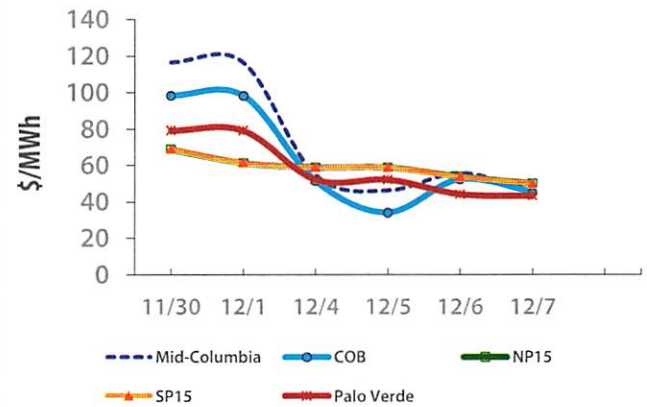
Average Peak Power Prices

Thurs., 11/30 - Thurs., 12/07



Average Off-Peak Prices

Thurs., 11/30 - Thurs., 12/07



Average Natural Gas Prices (\$/MMBtu)

	Thurs. 11/30	Tues. 12/05	Thurs. 12/07
Henry Hub	2.77	2.74	2.53
Sumas	4.86	5.66	2.77
Alberta	2.46	2.43	1.91
Malin	5.01	5.96	3.00
Opal/Kern	4.98	5.87	2.77
Stanfield	4.99	6.08	2.99
PG&E CityGate	5.14	6.32	3.99
SoCal Border	5.23	5.11	3.18
SoCal CityGate	5.51	6.01	3.71
EP-Permian	2.03	1.65	0.11
EP-San Juan	3.02	2.96	1.88

Power/gas prices courtesy Enerfax

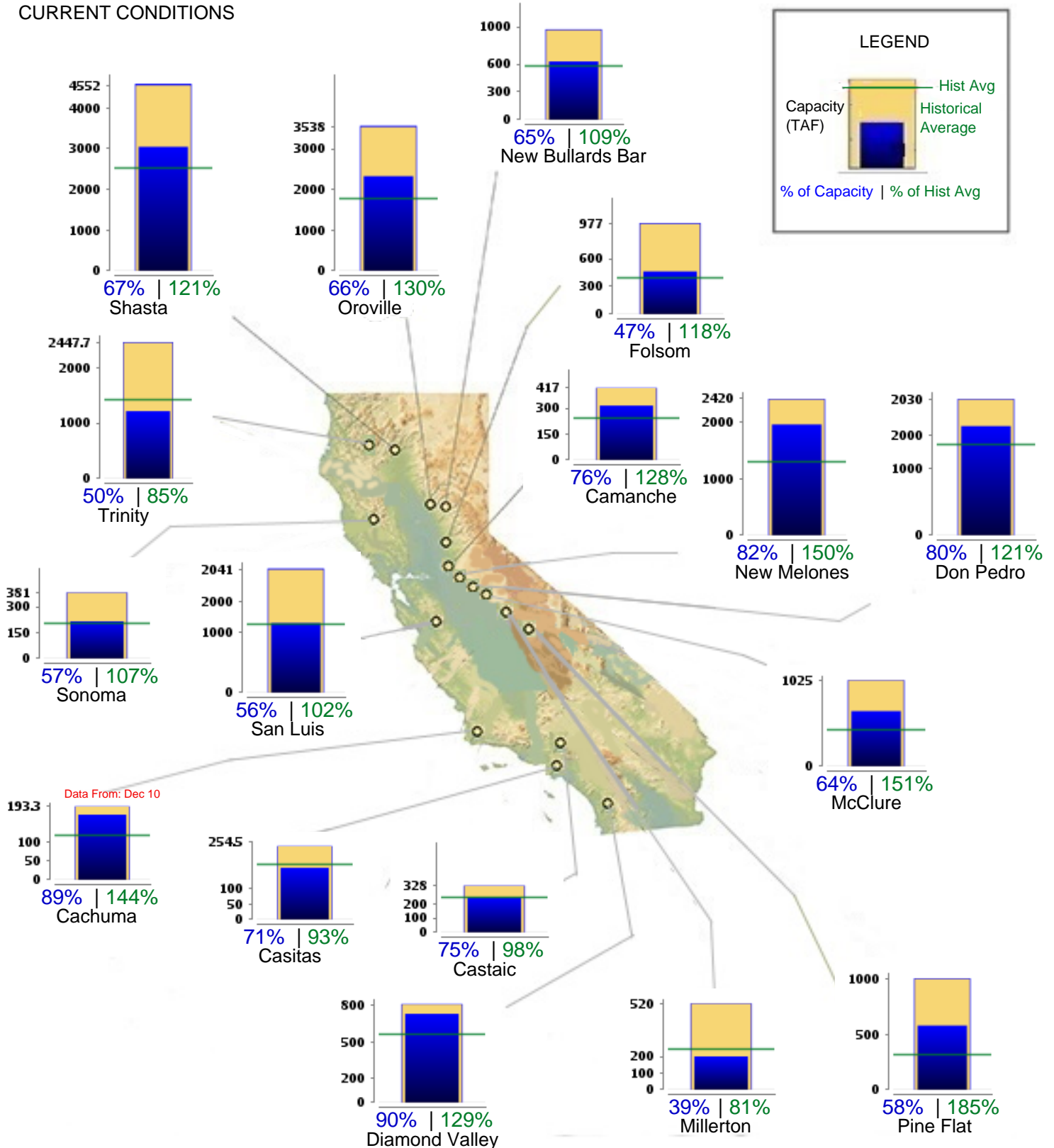


CURRENT RESERVOIR CONDITIONS

CALIFORNIA MAJOR WATER SUPPLY RESERVOIRS

Midnight - December 11, 2023

CURRENT CONDITIONS





1617 S. Yosemite Avenue • Oakdale, CA 95361 • Phone: (209) 847-6300 • Fax: (209) 847-1925

December 11, 2023

Tri Dam Project
Summer Nicotero
P.O. Box 1158
Pinecrest, CA 95364

Re: November 2023 Invoices

Dear Miss Nicotero:

Enclosed are invoices for consulting services provided by FISHBIO during November. Services provided for each project are summarized below.

Non-Native Investigation/ Predator Study

Effort during November focused on working with San Francisco Estuary and Watershed Science to finalize the paper entitled "Diets of native and non-native piscivores in the Stanislaus River, California under contrasting hydrologic conditions" that will be published in the December edition. Effort also focused on analysis of striped bass occupancy of the Stanislaus River to evaluate trends in timing, relative abundance, fish size, and distribution across the five year study period. Analyses and draft chapters of the comprehensive study report continue to be updated with data collected over the course of the study.

O. mykiss Census

During December data from the annual snorkel survey was summarized and analyzed to support development of the annual report expected to be completed in December.

Stock-recruit Analysis

During November we continued developing the report summarizing the findings of the stock-recruit analysis that has been completed. The draft report of findings is nearing completion with subsequent development of a manuscript for peer-review planned for early 2024.



Budget Summary

2023	<i>RST</i>		<i>O. mykiss</i>		<i>Total</i>
	<i>Monitoring</i>	<i>Non-natives</i>	<i>Census</i>	<i>Stock-recruit</i>	
<i>Jan</i>	\$ 18,005.00	\$ 25,460.00	\$ -	\$ 2,182.50	\$ 45,647.50
<i>Feb</i>	\$ 23,655.85	\$ 67,771.62	\$ -	\$ 2,712.50	\$ 94,139.97
<i>Mar</i>	\$ 16,625.93	\$ 69,349.50	\$ -	\$ 1,360.00	\$ 87,335.43
<i>Apr</i>	\$ 16,800.77	\$ 36,640.42	\$ -	\$ 4,015.00	\$ 57,456.19
<i>May</i>	\$ 9,883.39	\$ 42,236.12	\$ -	\$ 14,345.00	\$ 66,464.51
<i>Jun</i>	\$ 5,379.89	\$ 62,191.32	\$ -	\$ 28,385.00	\$ 95,956.21
<i>Jul</i>	\$ -	\$ 18,410.36	\$ -	\$ 4,360.00	\$ 22,770.36
<i>Aug</i>	\$ -	\$ 20,175.48	\$ -	\$ 13,970.00	\$ 34,145.48
<i>Sep</i>	\$ -	\$ 8,225.00	\$ 44,170.00	\$ 3,245.00	\$ 55,640.00
<i>Oct</i>	\$ -	\$ 17,900.00	\$ -	\$ 4,400.00	\$ 22,300.00
<i>Nov</i>	\$ -	\$ 20,205.00	\$ 1,523.75	\$ 7,560.00	\$ 29,288.75
TOTAL	\$ 90,350.83	\$388,564.82	\$ 45,693.75	\$ 86,535.00	\$ 611,144.40
<i>Estimated 2023</i>	\$ 90,000.00	\$450,000.00	\$ 60,000.00	\$165,000.00	\$ 765,000.00
<i>Remaining</i>	\$ (350.83)	\$ 61,435.18	\$ 14,306.25	\$ 78,465.00	\$ 153,855.60

Sincerely,


Andrea Fuller

SJB November Field Report

Fall-run Adult Migration Monitoring

A total of 1,082 Chinook salmon and three *O. mykiss* were observed in the Stanislaus River from November 1 to November 30, increasing the season total to 2,045 Chinook salmon (Figure 1) and 28 *O. mykiss*. Thus far, total Chinook passage observed this season was almost 25% less than that observed through November 2022 and over 60% less than the number observed in November 2021. Chinook passage at the weir to date ranks 6th lowest since sampling began in 2003 (excluding 2011 when sampling started in mid-November due to high flows). Over the past decade, following the implementation of the constant fractional marking (CFP) program (fin clipping ~25% of hatchery production), the number of fin clipped salmon observed in the Stanislaus River have been roughly 23% or higher indicating that most, if not all, of the salmon migrating into the Stanislaus River are of hatchery origin. The same trend was observed in 2023 as 27% of the fish passing the Stanislaus River weir were fin clipped.

Trapping in the upstream livebox was conducted at the Stanislaus River weir during November (two days on, one day off schedule) to validate Vaki data, determine length/depth ratios for the species sampled, and to collect biological data (e.g., scales, fin clips, fat content, otoliths) from salmonids. A total of 156 Chinook salmon and one *O. mykiss* were captured during the month. A “wild” (i.e., not ad-clipped) adult *O. mykiss* (TL 410 mm) was captured in the trap on November 21. Seventy-five percent of the *O. mykiss* passing the Stanislaus weir in 2023 have been adipose fin clipped. Trapping will continue through April targeting *O. mykiss*.

Migration into the Tuolumne River was later in 2023 compared to previous years with over 90% of the Chinook salmon passing the Tuolumne weir after November 1 (Figure 2). A total of 1,149 Chinook salmon were observed in the Tuolumne River, increasing the season total to 1,242 (Figure 2). Total passage to date is the highest since 2019 and ranks 8th highest since weir monitoring began in 2009. To date, 27% of the Chinook passing the Tuolumne River weir have clipped adipose fins indicating most of the fish migrating into the Tuolumne River this year are of hatchery origin.

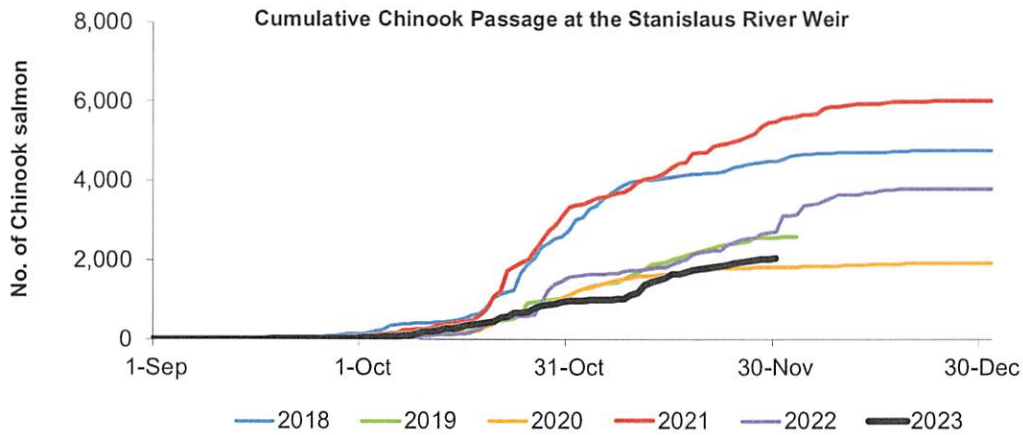


Figure 1. Cumulative Chinook salmon passage at the Stanislaus River weir, 2018-2023.

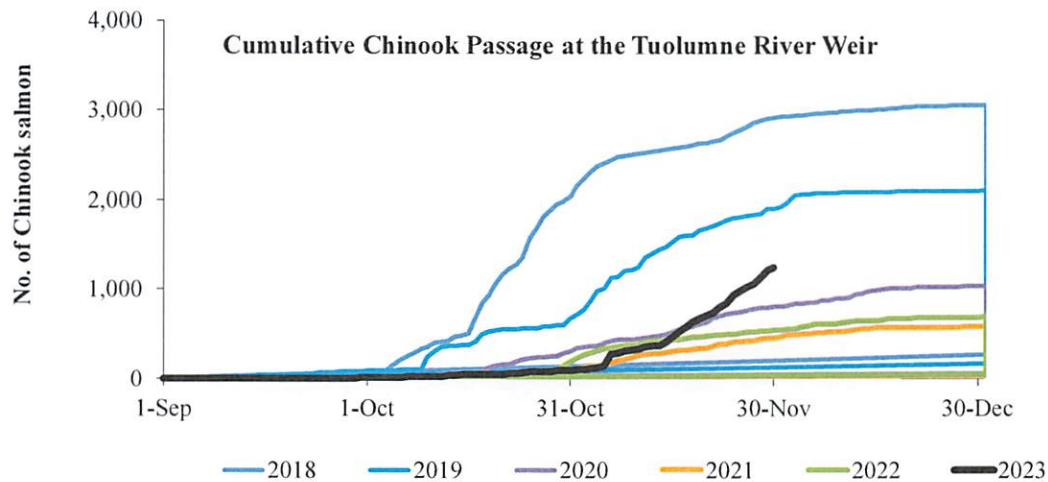


Figure 2. Cumulative Chinook salmon passage at the Tuolumne River weir, 2018-2023.

Chinook salmon counts on the Mokelumne River are available since 1940. Salmon counts in 2023 set a record with a total of 25,577 Chinook salmon passing Woodbridge Dam through November 30. The previous record was set in 2017 with a season total (through December) of 19,953 fish (Figure 3). Almost 10,000 salmon were counted in November 2023 alone and the fish will still trickle in for at least another month.

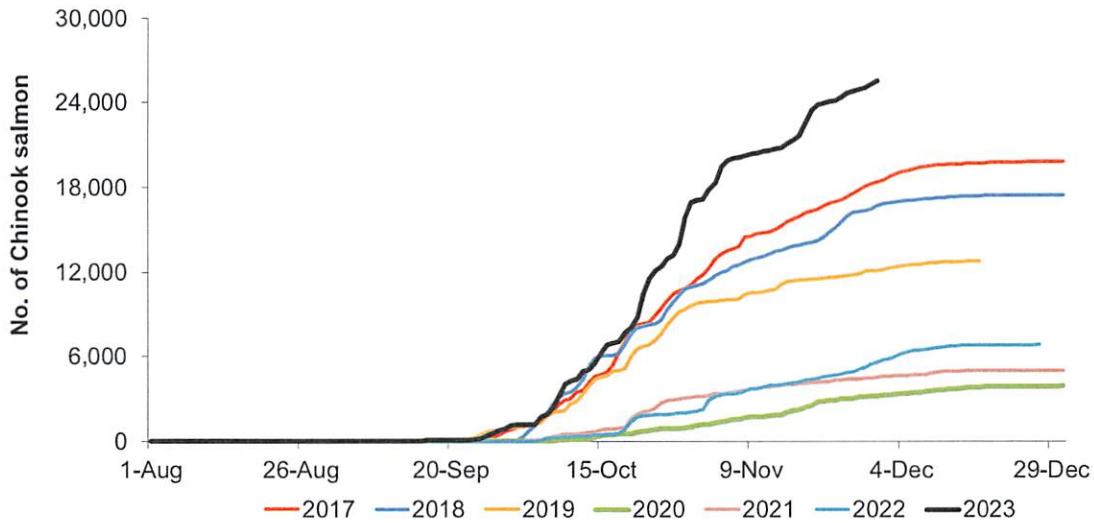


Figure 3. Cumulative Chinook salmon passage at the Mokelumne River fish ladder, 2017-2023.

Redd surveys were conducted bi-weekly on the Tuolumne River in November. The number of redds observed increased during the month but have yet to peak, following the trend of passages seen at the weir during the month. Bi-weekly surveys will be conducted through December and through the spring to document *O. mykiss* spawning activity.

Two redd surveys have been conducted on the Calaveras River in November and one potential *O. mykiss* redd was observed. Bi-weekly surveys will be conducted through December and through the spring to document *O. mykiss* spawning activity.

Stanislaus *O. mykiss* Sampling

The third monthly Stanislaus River hook-and-line survey was conducted on November 13-15 from Knights Ferry to Orange Blossom Bridge. A total of 106 *O. mykiss* were captured, including six fish that were previously tagged by Cramer Fish Sciences (CFS) and two fish previously tagged by FISHBIO. Total length of fish captured ranged from 145 mm (5.7 inches) to 518 mm (20.4 inches; Figure 4). Tissue and scale samples were collected from all “new” fish. All adult *O. mykiss* (≥ 300 mm) also received a PIT tag before being released in good condition in the same area they were captured. One yearling Chinook was also captured and released in the Knights Ferry reach.



Figure 4. A 20.4-inch *O. mykiss* captured near Knights Ferry during the hook-and-line surveys.

Juvenile Outmigration Monitoring

Calaveras River rotary screw trap (RST) began sampling on November 1 and sampled a total of 18 days during the month. Zero YOY (<100 mm) and eight Age 1+ (100-299 mm) *O. mykiss* have been captured so far this season (Figure 5). Four *O. mykiss* were implanted with a Passive Integrated Transponder (PIT) tag to potentially track their movement in the Calaveras River and other water bodies. A pulse flow occurred in late November and the RST was able to fish during the initial increase, and then resumed sampling at the tail end of the pulse. Water velocities become too great to sample the RST once flows exceed 300 cfs.

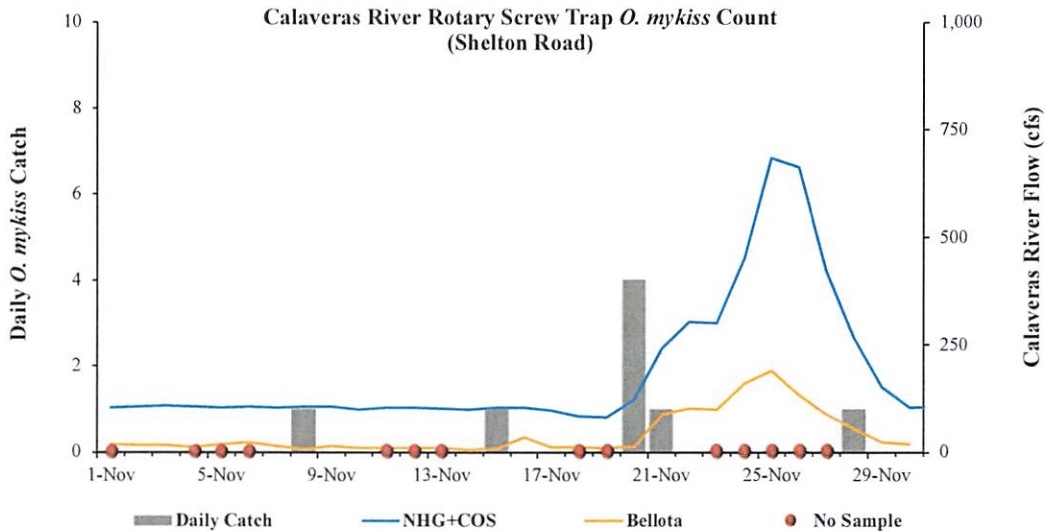


Figure 5. Daily *O. mykiss* catch at the Shelton Rd. RST and Calaveras River flow during 2023-24.

Summer Snorkel Surveys

Snorkel surveys to estimate abundance and distribution of *O. mykiss* have been conducted in the early fall in the Calaveras and Stanislaus rivers. Estimates have been calculated for the Calaveras and Stanislaus rivers and are presented below.

Estimated abundance of *O. mykiss* (all life stages combined) in the Calaveras River in 2023 was 13,137, a 25% decrease over the 17,392 fish estimated in 2022 (Figure 6). Fish measuring between 150 mm and 300 mm (Age 1+) were the most abundant, followed by young-of-the-year (YOY; <150 mm). Abundance was highest in the Canyon reach (5,227 individuals), followed by the Jenny Lind reach (4,605 individuals) and the Dam (3,102 individuals). In the Shelton reach, fish abundance was low (203 individuals) compared to the upper reaches. Densities in 2023 were highest in the Dam reach (2,169 fish per mile), followed by the Jenny Lind (914 individuals per mile) and the Canyon (807 fish per river mile) reaches. Notably, fish density decreased by over 60% in the Jenny Lind Reach and over 80% in the Shelton Reach compared to previous years but increased in the Canyon reach by 20% (Figure 7).

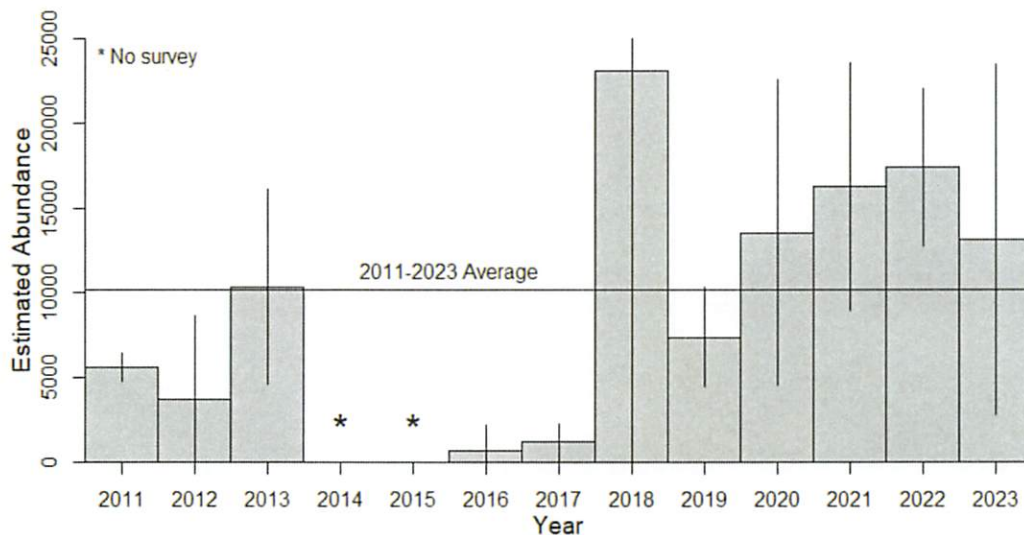


Figure 6. Annual *O. mykiss* abundance in the Calaveras River, 2011 – 2023. Note: the Dam reach was not surveyed in 2012 or 2022, so overall abundance is underestimated.

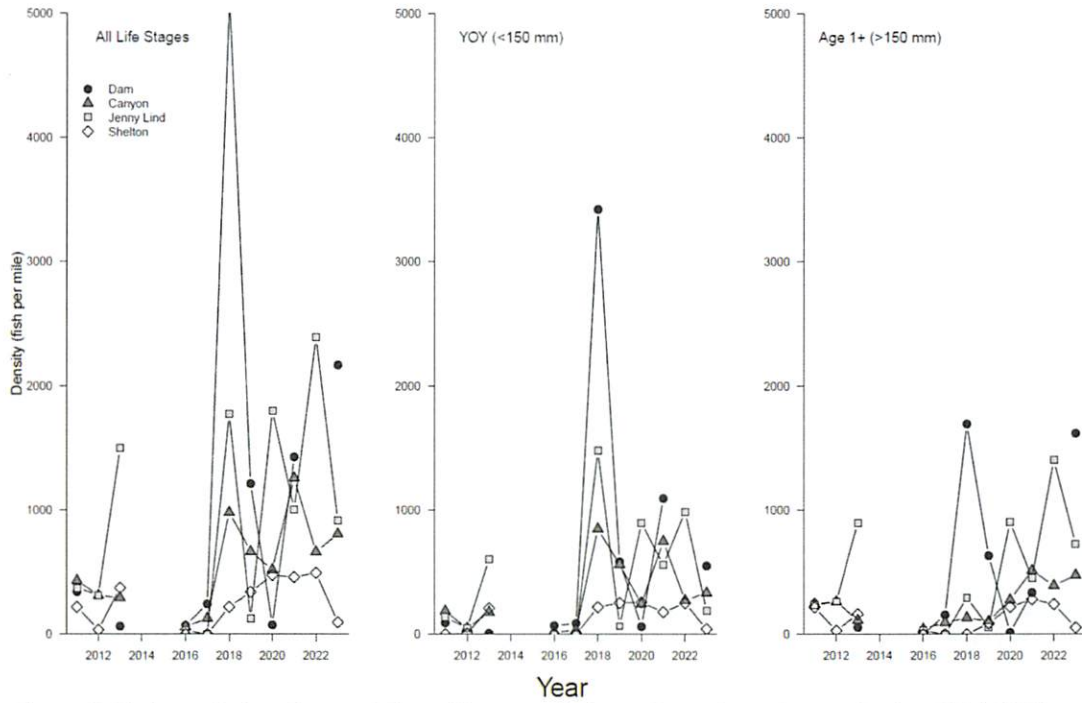


Figure 7. Estimated abundance of *O. mykiss* per mile in each reach, each year during 2011-2023.

Estimated abundance of *O. mykiss* (all life stages combined) in the Stanislaus River in 2023 was 10,445, a 72% increase over the 6,065 fish estimated in 2022 (Figure 8). Abundance was highest in the Goodwin Canyon reach (4,616 individuals), followed by the Knights Ferry reach (4,354 individuals) and the OBB reach (1,475 individuals). As in past years, density (1,778 fish per river mile) was highest in Goodwin Canyon but remained below the long-term average of 2,466 *O. mykiss* per river mile (Figure 9).

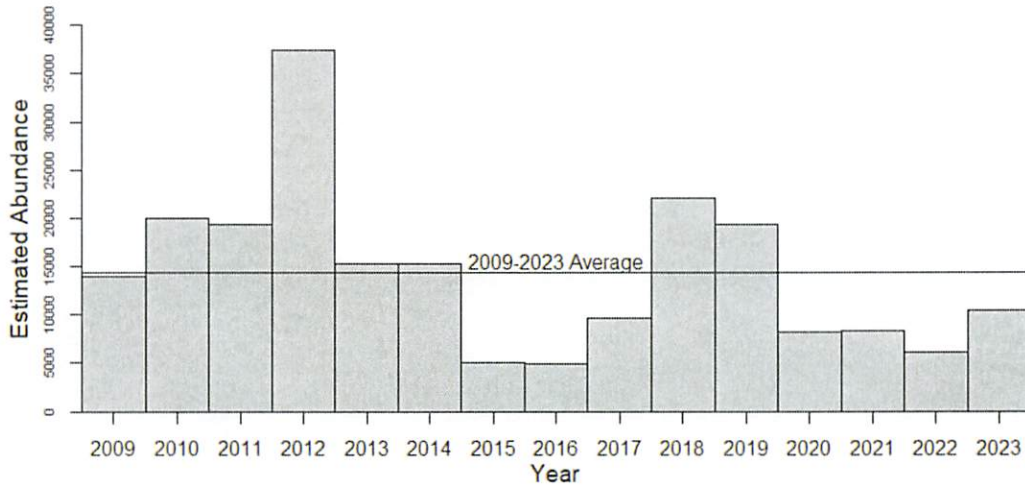


Figure 8. Annual *O. mykiss* abundance in the Stanislaus River during 2009-2023

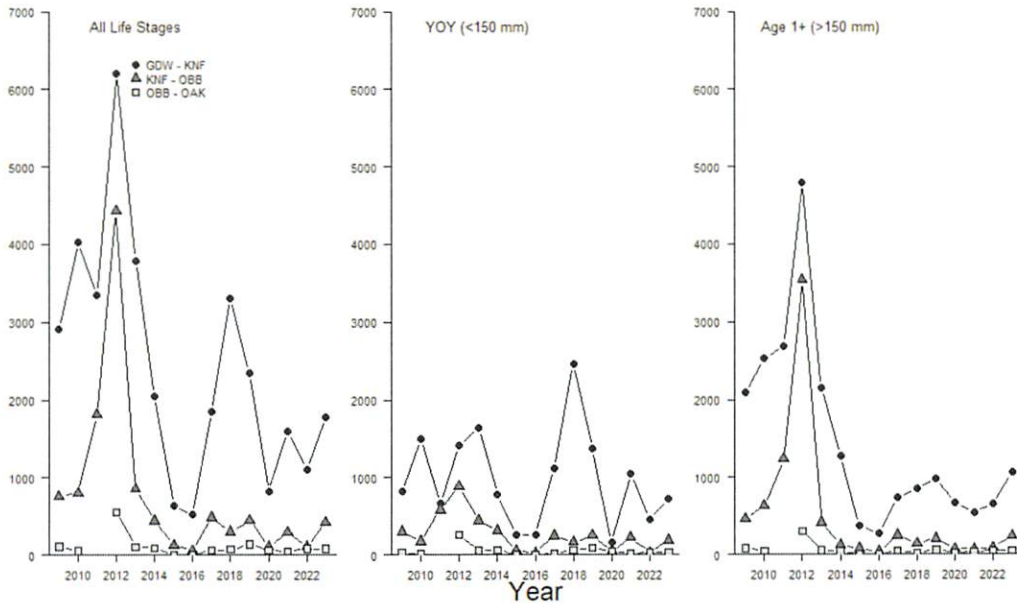


Figure 9. Number of *O. mykiss* per mile in each reach, each year during 2009-2023.

REGULAR BOARD MEETING
AGENDA
TRI-DAM POWER AUTHORITY
of THE OAKDALE IRRIGATION DISTRICT and
THE SOUTH SAN JOAQUIN IRRIGATION DISTRICT
DECEMBER 21, 2023
Start time is immediately following the Tri-Dam Project meeting
which begins at 9:00 AM

South San Joaquin Irrigation District
11011 E. Highway 120
Manteca, CA 95336

A COMPLETE COPY OF THE AGENDA PACKET WILL BE AVAILABLE ON THE TRI-DAM PROJECT WEB SITE (www.tridamproject.com) ON MONDAY, DECEMBER 18, 2023 AT 9:00 A.M. ALL WRITINGS THAT ARE PUBLIC RECORDS AND RELATE TO AN AGENDA ITEM WHICH ARE DISTRIBUTED TO A MAJORITY OF THE BOARD OF DIRECTORS LESS THAN 72 HOURS PRIOR TO THE MEETING NOTICED ABOVE WILL BE MADE AVAILABLE ON THE TRI-DAM PROJECT WEB SITE (www.tridamproject.com).

Members of the public who wish to attend and participate in the meeting remotely, as opposed to in-person, can do so via internet at <https://ssjid.zoom.us/j/98120276218> or by telephone, by calling 1 (669) 900-6833, Meeting ID: 981-2027-6218, Password: 700546. All speakers commenting on Agenda Items are limited to five (5) minutes.

Members of the public may also submit public comments in advance by e-mailing dbarney@ssjid.com by 4:30 p.m., Wednesday, December 20, 2023.

In compliance with the Americans with Disabilities Act, a person requiring an accommodation, auxiliary aid, or service to participate in this meeting should contact the Executive Assistant at (209) 249-4623, as far in advance as possible but no later than 24 hours before the scheduled event. Best efforts will be made to fulfill the request.

CALL TO ORDER

ROLL CALL: John Holbrook, Dave Kamper, David Roos, Glenn Spyksma, Mike Weststeyn, Brad DeBoer, Herman Doornenbal, Tom Orvis, Linda Santos, Ed Tobias

PUBLIC COMMENT

CONSENT CALENDAR

ITEMS 1 – 2

Matters listed under the consent calendar are considered routine and will be acted upon under one motion. There will be no discussion of these items unless a request is made to the Board President by a Director or member of the public. Those items will be considered at the end of the consent items.

1. Approve the regular board meeting minutes of November 16, 2023.
2. Approve the November statement of obligations.

ACTION ITEM

ITEMS 3 - 4

3. Discussion and possible action to approve and adopt 2024 Budget.
4. Discussion and possible action to adopt a Resolution 2023-07 Election and Appointment of New Officers to the Tri-Dam Power Authority Board.

ADJOURNMENT

ITEMS 5 - 6

5. Commissioner Comments.
6. Adjourn to the next regularly scheduled meeting.

BOARD AGENDA REPORT

Date: 12/21/2023
Staff: Genna Modrell

SUBJECT: Tri-Dam Power Authority November 2023 Minutes

RECOMMENDED ACTION: Review and possible approval of November 16, 2023 Minutes

BACKGROUND AND/OR HISTORY:

Draft minutes attached.

FISCAL IMPACT: None

ATTACHMENTS: Draft minutes attached.

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

**TRI-DAM POWER AUTHORITY
MINUTES OF THE JOINT BOARD
OF COMMISSIONERS REGULAR MEETING**

November 16, 2023
Oakdale, California

The Commissioners of the Tri-Dam Power Authority met at the office of the Oakdale Irrigation District in Oakdale, California, on the above date for the purpose of conducting business of the Tri-Dam Power Authority, pursuant to the resolution adopted by each of the respective Districts on October 14, 1984.

President Spyksma called the meeting to order at 10:24 a.m.

OID COMMISSIONERS

SSJID COMMISSIONERS

COMMISSIONERS PRESENT:

ED TOBIAS
TOM ORVIS
HERMAN DOORNENBAL

GLENN SPYKSMA
MIKE WESTSTEYN
JOHN HOLBROOK
DAVID ROOS
DAVE KAMPER

Also Present:

Summer Nicotero, General Manager, Tri-Dam Project; Scot Moody, General Manager, OID; Sharon Cisneros, Chief Financial Officer, OID; Genna Modrell, Finance Asst., Tri-Dam Project; Peter Rietkerk, General Manager, SSJID; Sonya Williams, Finance and Administration Manager, SSJID; Forrest Killingsworth, Engineering Manager, SSJID; Mia Brown, Counsel, SSJID; Tim O’Laughlin, Counsel

PUBLIC COMMENT

No public comment.

CONSENT CALENDAR

- ITEM #1 Approve the regular board meeting minutes of October 16, 2023.**
- ITEM #2 Approve the Financial Statements of the nine months ending September 30, 2023.**
- ITEM #3 Approve the October statement obligations.**

Commissioner Tobias moved to approve items one, two and three under the consent calendar as presented. Commissioner Doornenbal seconded the motion.

The motion passed by the following roll call vote:

AYES: Doornenbal, Orvis, Tobias, Holbrook, Kamper, Roos, Spyksma, Weststeyn

NOES: None

ABSTAINING: None

ABSENT: DeBoer, Santos

ITEM #4 Discussion and possible action to extend the Independent Audit Services for years ending 2023 and 2024 – C.J. Brown & Company, CPAs.

Commissioner Doornenbal moved to approve as presented. Commissioner Holbrook seconded the motion.

The motion passed by the following roll call vote:

AYES: Doornenbal, Orvis, Tobias, Holbrook, Kamper, Roos, Spyksma, Weststeyn
NOES: None
ABSTAINING: None
ABSENT: DeBoer, Santos

ITEM #5 Commissioner Comments

None.

ADJOURNMENT

President Spyksma adjourned the meeting at 10:27 a.m.

The next Board of Commissioners meeting is scheduled for December 21, 2023, at the offices of South San Joaquin Irrigation District immediately following the Tri-Dam Project meeting, which commences at 9:00 a.m.

ATTEST:

Summer Nicotero, Secretary
Tri-Dam Power Authority

DRAFT

BOARD AGENDA REPORT

Date: 12/21/2023
Staff: Genna Modrell

SUBJECT: Tri-Dam Power Authority November Statement of Obligations

RECOMMENDED ACTION: Recommend Approval of the November Statement of Obligations

BACKGROUND AND/OR HISTORY:

Submitted for approval is the November Statement of Obligations for Tri-Dam Power Authority.

FISCAL IMPACT: See Attachments

ATTACHMENTS: Tri-Dam Power Authority Statement of Obligations

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

Tri-Dam Power Authority

Statement of Obligations

November 1, 2023 to November 30, 2023

**TRI-DAM POWER AUTHORITY
STATEMENT OF OBLIGATIONS**

Period Covered
November 1, 2023 to November 30, 2023

Total Obligations: **9** **checks** **in the amount of** **\$8,412.43**
(See attached Vendor Check Register Report)

CERTIFICATION

OAKDALE IRRIGATION DISTRICT

SOUTH SAN JOAQUIN IRRIGATION DISTRICT

Thomas D. Orvis

John Holbrook

Ed Tobias

Dave Kamper

Linda Santos

David Roos

Herman Doornenbal

Glenn Spyksma

Brad DeBoer

Mike Weststeyn

To: Peter Rietkerk, SSJID General Manager:

THE UNDERSIGNED, EACH FOR HIMSELF, CERTIFIES THAT HE IS PRESIDENT OR SECRETARY OF THE TRI-DAM POWER AUTHORITY; THAT THE AMOUNTS DESIGNATED ABOVE HAVE BEEN ACTUALLY, AND NECESSARILY AND PROPERLY EXPENDED OR INCURRED AS AN OBLIGATION OF THE TRI-DAM POWER AUTHORITY FOR WORK PERFORMED OR MATERIALS FURNISHED FOR OPERATIONS AND MAINTENANCE OF THE SAND BAR PROJECT; THAT WARRANTS FOR PAYMENT OF SAID AMOUNTS HAVE BEEN DRAWN ON THE SAND BAR PROJECT O & M CHECKING ACCOUNT AT OAK VALLEY COMMUNITY BANK, SONORA, CALIFORNIA.

TRI-DAM POWER AUTHORITY
PRESIDENT,

TRI-DAM POWER AUTHORITY
SECRETARY,

Glenn Spyksma, President Date

Summer Nicotero, Secretary Date

Authority

November Checks



Check	Vendor No	Vendor	Date	Description	Amount
208384	10500	OID ~ Routine	11/03/2023	Admin / Finance Services	3,806.21
208382	11049	Hunt & Sons, LLC	11/03/2023	Fuel	2,026.23
208387	10319	General Plumbing Supply Co Inc.	11/15/2023	Repl. pipe - turbin shutoff valve opening curcuit	1,088.60
208388	10439	McMaster-Carr Supply Co.	11/15/2023		375.80
208386	11414	Provost & Pritchard	11/03/2023		366.80
208385	10516	Pacific Gas & Electric Co.	11/03/2023		345.10
208390	11343	Tim O'Laughlin, PLC	11/15/2023		225.00
208389	10485	Newark element14	11/15/2023		128.15
208383	10402	Kamps - High Country Propane	11/03/2023		50.54
Report Total:					\$ 8,412.43

BOARD AGENDA REPORT

Date: December 21, 2023

Staff: Summer Nicotero

SUBJECT: REVIEW AND TAKE POSSIBLE ACTION TO APPROVE AND ADOPT THE 2024 BUDGET FOR THE TRI-DAM POWER AUTHORITY

RECOMMENDED ACTION: Approve Adoption of the Proposed 2024 Budget for the Tri-Dam Power Authority

BACKGROUND AND/OR HISTORY:

Planning, budgeting, and forecasting are all part of a three-step process for determining and detailing an organization's long-term and short-term financial goals. A budget is an estimate of revenues and expenses for a set period of time which forecasts future financial conditions and goals for an organization. The budget serves as a plan of action for achieving quantified objectives and a standard of measuring performance. Budget development is a year-long process. Once adopted, staff tracks expenses on a real-time basis and compare those actual expenses to the budget over the course of the year.

Due to the absence of a Finance Manager at the Tri-Dam entities, the General Manager, with the support of the Interim Finance Manager, have created a budget with revenue that reflects an increase of \$1 million over prior year budget due to the new power purchase agreement.

Salaries and wages were increased approximately 4% to allow for annual increases. Operations and Maintenance expenditures are relatively flat. Administrative expenditures increased approximately \$200K over prior year budget mainly due to increases in insurance premiums (\$140K) and legal fees (\$49K).

The capital budget has increased by \$900K primarily due to rolling current year projects into 2024.

FISCAL IMPACT: None

ATTACHMENTS: 2024 Proposed Budget

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

TRI-DAM POWER AUTHORITY

2024 PROPOSED BUDGET



Tri-Dam Authority 2024 Proposed Budget

	2021 Actual	2022 Actual	Amended 2023 Budget	2023 Projection	2024 Proposed Budget	Change from 2023 Amended Budget		Change from 2023 Projection		
Operating Revenues										
1	Power Sales	\$ 2,594,996	\$ 5,365,624	\$ 4,500,000	\$ 9,500,000	\$ 5,500,000	\$ 1,000,000	22%	\$ (4,000,000)	-42%
	Total Operating Revenues	2,594,996	5,365,624	4,500,000	9,500,000	5,500,000	1,000,000	22%	(4,000,000)	-42%
Operating Expenses										
2	Salaries and Wages	344,503	297,557	368,000	281,000	384,000	16,000	4%	103,000	37%
3	Benefits and Overhead	231,547	107,131	253,200	105,000	264,528	11,328	4%	159,528	152%
4	Operations	6,065	5,475	10,700	9,115	11,000	300	3%	1,885	21%
5	Maintenance	39,220	47,934	78,500	13,556	65,000	(13,500)	-17%	51,444	379%
6	General & Administrative	262,912	303,797	332,500	456,000	528,100	195,600	59%	72,100	16%
7	Depreciation Expense	493,325	488,766	495,000	490,000	514,500	19,500	4%	24,500	5%
8	Total Operating Expenses	1,377,572	1,250,659	1,537,900	1,354,671	1,767,128	229,228	15%	412,457	30%
9	Net Income From Operations	1,217,424	4,114,965	2,962,100	8,145,329	3,732,872	770,772		(4,412,457)	
Nonoperating Revenues (Expenses)										
10	Investment Earnings	1,964	(5,014)	-	-	-	-	0%	-	0%
11	Gain/Loss on Asset Disposal	6,625	-	-	-	-	-	0%	-	0%
12	Total Nonoperating Revenues (Expenses)	8,589	(5,014)	-	-	-	-	0%	-	0%
	Net Income Before Capital Expenses	\$ 1,226,013	\$ 4,109,950	\$ 2,962,100	\$ 8,145,329	\$ 3,732,872	\$ 770,772	26%	\$ (4,412,457)	-54%

Tri-Dam Authority 2024 Proposed Budget Operations Department Expenses



Operations Summary

		2021 Actual	2022 Actual	Amended 2023 Budget	2023 Projection	2024 Proposed Budget	Change from 2023 Amended Budget			Change from 2023 Projection
	1	\$ 144,792	\$ 147,686	\$ 150,000	\$ 160,000	\$ 156,000	\$ 6,000	4%	\$ (4,000)	-3%
	2	92,764	48,797	83,200	55,000	86,528	3,328	4%	31,528	57%
		237,556	196,482	233,200	215,000	242,528	9,328		27,528	
	Operations Dept Labor Exp									
53940	3	452	-	-	150	-	-	0%	(150)	0%
53970	4	(847)	3,820	4,200	4,000	4,500	300	7%	500	13%
59363	5	-	-	-	-	-	-	0%		
59650	6	6,460	1,655	6,500	4,965	6,500	-	0%	1,535	0%
		6,065	5,475	10,700	9,115	11,000	300		1,885	
	Non-Labor Operations Exp									
	Total Operations Dept Exp	\$ 243,621	\$ 201,957	\$ 243,900	\$ 224,115	\$ 253,528	\$ 9,628	4%	\$ 29,413	13%

Tri-Dam Authority 2024 Proposed Budget Maintenance Department Expenses

		2021 Actual	2022 Actual	Amended 2023 Budget	2023 Projection	2024 Proposed Budget	Change from 2023 Amended Budget		Change from 2023 Projection	
Maintenance Summary										
1	Salaries and Wages	\$ 123,016	\$ 87,072	\$ 128,000	\$ 60,000	\$ 134,000	\$ 6,000	5%	\$ 74,000	123%
2	Benefits and Overhead	91,369	38,351	107,000	25,000	112,000	5,000	5%	87,000	348%
Maintenance Dept Labor Exp		214,385	125,423	235,000	85,000	246,000	11,000	5%	161,000	189%
53950	3 Safety Supplies	213	68	500	180	-	(500)	-100%	(180)	-100%
54330	4 Maintenance & Repairs	21,471	34,160	42,000	8,000	15,000	(27,000)	-64%	7,000	88%
54460	5 Electrical & Electronic Expense	2,649	3,166	3,000	2,200	3,000	-	0%	800	36%
54550	6 Hydro Expenses	959	6	2,000	-	15,000	13,000	650%	15,000	100%
54560	7 Microwave/Computer Systems	-	-	3,000	-	-	(3,000)	-100%	-	0%
54630	8 Powerline maintenance/veg rem	13,228	1,016	11,000	-	15,000	4,000	36%	15,000	0%
54730	9 Communication Systems	-	4,955	6,000	500	6,000	-	0%	5,500	1100%
59375	10 Haz Mat Business Plan	-	379	1,000	400	1,000	-	0%	600	150%
59740	11 Shop Supplies	-	-	1,000	250	1,000	-	0%	750	300%
59755	12 Equipment Rent from Project	-	-	-	-	-	-	0%	-	0%
59770	13 Fuel Expenses	-	3,401	4,000	2,026	4,000	-	100%	1,974	97%
59790	14 Equipment Operation & Maintenance	700	-	-	-	-	-	0%	-	0%
54810	15 Routine Road Maintenance	-	783	5,000	-	5,000	-	0%	5,000	0.00%
Non-Labor Maintenance Expenses		39,220	47,934	78,500	13,556	65,000	(13,500)		51,444	
Maintenance Dept Expenses		\$ 253,605	\$ 173,357	\$ 313,500	\$ 98,556	\$ 311,000	\$ (2,500)		\$ 212,444	



Tri-Dam Authority 2024 Proposed Budget Administration Department Expenses

		2021 Actual	2022 Actual	Amended 2023 Budget	2023 Projection	2024 Proposed Budget	Change from 2023 Amended Budget		Change from 2023 Projection	
Administration Summary										
1	Salaries and Wages	\$ 76,695	\$ 62,799	\$ 90,000	\$ 61,000	\$ 94,000	\$ 4,000	4%	\$ 33,000	54%
2	Benefits and Overhead	47,417	19,984	63,000	25,000	66,000	3,000	5%	41,000	164%
	Administration Dept Labor Exp	124,112	82,782	153,000	86,000	160,000	7,000	5%	74,000	86%
3	Professional Services Consulting	-	5,567	9,000	14,000	15,000	6,000	100%	1,000	7%
4	Office & Administrative expense	22	-	500	1,000	1,100	600	120%	100	10%
5	APPA & NHA Dues	7,898	7,275	10,000	11,000	12,000	2,000	20%	1,000	9%
6	Legal Fees	13,510	40,033	51,000	53,000	100,000	49,000	96%	47,000	89%
7	Auditor Services	9,496	6,720	10,000	10,000	10,000	-	0%	-	0%
8	Liability & Property Insurance	189,785	177,471	170,000	297,000	312,000	142,000	84%	15,000	5%
9	Property Taxes	334	-	4,000	1,000	4,000	-	0%	3,000	300%
10	FERC License Fees	24,432	26,063	34,000	25,000	27,000	(7,000)	-21%	2,000	8%
11	USFS Sandbar Collection Agreement	17,435	40,668	44,000	44,000	47,000	3,000	7%	3,000	7%
	Non-Labor Administration Expenses	262,912	303,797	332,500	456,000	528,100	195,600		72,100	
	Administrative Dept Expenses	\$ 387,024	\$ 386,579	\$ 485,500	\$ 542,000	\$ 688,100	\$ 202,600		\$ 146,100	

Tri-Dam Authority Capital Expenditures Budget 2024 Proposed Budget

Expenditure	Budget 2023	2023 Projection	Proposed Budget 2024	2025	2026
1 Exciter	\$ -	\$ -	\$ -	\$ -	\$ -
2 Stop Log Gate Re-seal	-	-	-	-	-
3 Sandbar PH 51E Mechanical Relay Replc	25,000	-	-	-	-
4 Sandbar PH 115kV Pole Replace/Repair	750,000	-	1,000,000	-	-
5 Sandbar PH Bridge Board Repair	100,000	30,000	70,000	-	-
6 Sandbar PH Flowmeter	150,000	50,000	100,000	-	-
7 Graphex Operator Interface	20,000	16,400	-	-	-
8 Intake Trash Rack Replacement			10,000		
9 Underground Beardsley PH to Sandbar Intake			750,000		
10 Roof ReSeal SPH			30,000		
11 Gateshaft Governor Retrofit				150,000	
Total Capital	\$ 1,045,000	\$ 96,400	\$ 1,960,000	\$ 150,000	\$ -

BOARD AGENDA REPORT

Date: December 21, 2023

Staff: Summer Nicotero

SUBJECT: REVIEW AND TAKE POSSIBLE ACTION TO ADOPT A RESOLUTION ON THE ELECTION AND APPOINTMENT OF NEW OFFICERS TO THE TRI-DAM POWER AUTHORITY BOARD

RECOMMENDED ACTION: Approve Adoption of Resolution on the Election and Appointment of New Officers to the Tri-Dam Power Authority Board

BACKGROUND AND/OR HISTORY:

The attached Resolution for the Election and Appointment of New Officers to the Board is consistent with the requirements of the Joint Exercise of Powers Agreement by and between Oakdale Irrigation District and South San Joaquin Irrigation District forming "Tri-Dam Power Authority" dated October 14, 1982.

Per the agreement, annual election and appointment is required.

FISCAL IMPACT: None

ATTACHMENTS: Resolution TDPA 2023-07, Election and Appointment of New Officers

Board Motion:

Motion by: _____ **Second by:** _____

VOTE:

OID: DeBoer (Yes/No) Doornenbal (Yes/No) Orvis (Yes/No) Santos (Yes/No) Tobias (Yes/No)

SSJID: Holbrook (Yes/No) Kamper (Yes/No) Roos (Yes/No) Spyksma (Yes/No) Weststeyn (Yes/No)

TRI-DAM POWER AUTHORITY RESOLUTION NO. TDPA 2023-07
Oakdale Irrigation District
South San Joaquin Irrigation District

ELECTION AND APPOINTMENT OF NEW OFFICERS

WHEREAS, election of a President and a Vice President and appointment of a General Manager/Secretary of the Board are required each year pursuant to the "Joint Exercise of Powers Agreement by and between Oakdale Irrigation District and South San Joaquin Irrigation District forming Tri-Dam Power Authority" dated October 14, 1982,

NOW, THEREFORE, BE IT RESOLVED, that the following Tri-Dam Power Authority officers have been duly elected and appointed, are now acting and are qualified to sign written instructions, consents, stock certificates or other securities, etc., on behalf of this Authority, that the specimen signatures appearing opposite the names and titles are genuine signatures of such officers and that said resolution electing and appointing these officers is now in full force and effect, and that this election and appointment of officers shall remain in effect until such annual election and appointment supersedes said action.

President: _____ Signature _____

Vice President: _____ Signature _____

General Mgr/
Secretary: Summer Nicotero _____ Signature _____

PASSED AND ADOPTED, this 21st day of December 2023, by the following vote:

OAKDALE IRRIGATION DISTRICT

SO. SAN JOAQUIN IRRIGATION DISTRICT

AYES:

NOES:

ABSENT:

TRI-DAM POWER AUTHORITY

President

Summer Nicotero
General Manager/Secretary