



AGENDA
REGULAR MEETING OF THE BOARD OF DIRECTORS
District Board Room, 2890 Mosquito Road, Placerville, California
October 23, 2023 — 9:00 A.M.

Board of Directors

Brian K. Veerkamp—Division 3
President

Alan Day—Division 5
Vice President

George Osborne—Division 1
Director

Pat Dwyer—Division 2
Director

Lori Anzini—Division 4
Director

Executive Staff

Jim Abercrombie
General Manager

Brian D. Poulsen
General Counsel

Jennifer Sullivan
Clerk to the Board

Jesse Saich
Communications

Brian Mueller
Engineering

Jamie Bandy
Finance

Jose Perez
Human Resources

Aaron Kennedy
Information Technology

Dan Corcoran
Operations

PUBLIC COMMENT: Anyone wishing to comment about items not on the Agenda may do so during the public comment period. Those wishing to comment about items on the Agenda may do so when that item is heard and when the Board calls for public comment. Public comments are limited to five minutes per person.

PUBLIC RECORDS DISTRIBUTED LESS THAN 72 HOURS BEFORE A MEETING: Any writing that is a public record and is distributed to all or a majority of the Board of Directors less than 72 hours before a meeting shall be available for immediate public inspection in the office of the Clerk to the Board at the address shown above. Public records distributed during the meeting shall be made available at the meeting.

AMERICANS WITH DISABILITIES ACT: In accordance with the Americans with Disabilities Act (ADA) and California law, it is the policy of El Dorado Irrigation District to offer its public programs, services, and meetings in a manner that is readily accessible to everyone, including individuals with disabilities. If you are a person with a disability and require information or materials in an appropriate alternative format, or if you require any other accommodation for this meeting, please contact the EID ADA coordinator at 530-642-4045 or email at adacoordinator@eid.org at least 72 hours prior to the meeting. Advance notification within this guideline will enable the District to make reasonable accommodations to ensure accessibility.

District Board Meetings are open to in-person attendance by the public and conducted virtually. The public may participate in the District's Board meeting by teleconference or web conference via the instructions below. Members of the public who participate in the meeting via teleconference or web conference will be given the opportunity to speak and address the Board, and their comments will be included in the recording of the meeting.

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Dial **1.669.900.6833** and enter Meeting ID **945 6360 8941** when prompted.

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CALL TO ORDER

Roll Call
Pledge of Allegiance
Moment of Silence

ADOPT AGENDA

COMMUNICATIONS

General Manager's Employee Recognition

PUBLIC COMMENT

COMMUNICATIONS

General Manager

Brief reports on District activities or items of interest to the public, including activities or developments that occur after the agenda is posted.

Clerk to the Board

Board of Directors

Brief reports on community activities, meetings, conferences and seminars attended by the Directors of interest to the District and the public.

APPROVE CONSENT CALENDAR

Action on items pulled from the Consent Calendar

CONSENT CALENDAR

1. Clerk to the Board (Sullivan)

Consider approving the minutes of the October 10, 2023 regular meeting of the Board of Directors.

Option 1: Approve as submitted.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

2. Engineering (Venable)

Consider adopting a resolution affirming the General Manager's authority to execute a grant agreement for \$787,500 from the California Department of Forestry and Fire Protection's California Climate Investments Wildfire Prevention Program for the El Dorado Canal Fuel Break Project.

Option 1: Adopt a resolution affirming the General Manager's authority to execute a grant agreement for \$787,500 from the California Department of Forestry and Fire Protection's California Climate Investments Wildfire Prevention Program for the El Dorado Canal Fuel Break Project.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

3. Operations (Russell)

Consider awarding a contract to B&M Builders, Inc. in the not-to-exceed amount of \$910,900 for concrete restoration work for a one-year period and authorize the General Manager to extend the contract for two additional, single-year periods, not to exceed \$1,000,000 per year, if in the District's best interests.

Option 1: Award a contract to B&M Builders, Inc. in the not-to-exceed amount of \$910,900 for concrete restoration work for a one-year period and authorize the General Manager to extend the contract for two additional, single-year periods, not to exceed \$1,000,000 per year, if in the District's best interests.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

4. Engineering (DeLongchamp/Eden-Bishop)

Consider awarding a contract to Peterson Brustad, Inc. in the not-to-exceed amount of \$208,862 for design of the Bridlewood, Reservoir 4, and Reservoir 7A Tank Recoating projects and authorize additional funding of \$42,124 for capitalized labor, and \$25,100 for project contingency for a total funding request of \$276,086 for the Bridlewood, Reservoir 4, and Reservoir 7A Tank Recoating Projects, Project No. 23038, 23039, and 23040, respectively.

Option 1: Award a contract to Peterson Brustad, Inc. in the not-to-exceed amount of \$208,862 for design of the Bridlewood, Reservoir 4, and Reservoir 7A Tank Recoating Projects, and authorize additional funding of \$42,124 for capitalized labor and \$25,100 in project contingency for a total funding request of \$276,086 for the Bridlewood, Reservoir 4, and Reservoir 7A Tank Recoating Projects, Project No. 23028, 23039, and 23040, respectively.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

5. Operations (Wilson)

Consider awarding a contract to Holt of California in the not-to-exceed amount of \$142,697 for the purchase of a replacement generator and authorize additional funding of \$5,000 in capitalized labor for a total funding request of \$147,697 for the Reservoir 1 Water Treatment Plant Generator Replacement Project, Project No. 23010.01.

Option 1: Award a contract to Holt of California in the not-to-exceed amount of \$142,697 for the purchase of a replacement generator and authorize additional funding of \$5,000 in capitalized labor for a total funding request of \$147,697 for the Reservoir 1 Water Treatment Plant Generator Replacement Project, Project No. 23010.01.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

6. Human Resources (Newsom)

Consider executing the Commitment to Excellence Agreement between the El Dorado Irrigation District and the Association of California Water Agencies Joint Powers Insurance Authority, making the District eligible for annual grant funding.

Option 1: Execute the Commitment to Excellence Agreement between the El Dorado Irrigation District and the Association of California Water Agencies Joint Powers Insurance Authority, making the District eligible for annual grant funding.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

END OF CONSENT CALENDAR

INFORMATION ITEMS

7. Office of the General Counsel (Leeper)

Annual Legislative Report for 2023 by Reeb Government Relations, LLC.

Recommended Action: None – Information only.

ACTION ITEMS

8. Finance (Bandy)

Consider accepting the Cost of Service Analysis and direct staff to issue a Proposition 218 Notice.

Option 1: Accept the Cost of Service Analysis and issue a Proposition 218 Notice.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

9. Engineering (Mueller)

Consider adopting the 2024–2028 Capital Improvement Plan.

Option 1: Adopt the 2024–2028 Capital Improvement Plan, subject to available funding.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

10. Engineering (Eden-Bishop)

Consider awarding a contract to Big Valley Electric, Inc. in the not-to-exceed amount of \$1,707,500 for construction of the Reservoir A Valve Replacement Project and authorize additional funding of \$94,719 for construction engineering services, \$34,685 for construction management, \$24,960 inspection services, \$26,000 for capitalized labor, and \$192,786 in project contingency for a total funding request of \$2,080,650 for the Reservoir A Filter Valve Replacement Project, Project No. 22038.01.

Option 1: Award a contract to Big Valley Electric in the not-to-exceed amount of \$1,707,500 for the construction of the Reservoir A Valve Replacement Project and authorize additional funding of \$94,719 for construction engineering services, \$34,685 for construction management, \$24,960 for inspection services, \$26,000 for capitalized labor, and \$192,786 in project contingency for a total funding request of \$2,080,650 for the Reservoir A Filter Valve Replacement Project, Project No. 22038.01.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

11. Finance (Royal)

Consider awarding contracts to Riverview International in the not-to-exceed amount of \$257,923 for the purchase of one replacement water truck and Imperial Industries Inc. in the not-to-exceed amount of \$229,163 for the purchase of one replacement vacuum pumper truck and authorize funding of \$20,633.84 in contingency for a total funding request of \$507,719.84 for the 2024 Vehicle Replacement Program, Project No. 24003.

Option 1: Award contracts to Riverview International in the not-to-exceed amount of \$257,923 for the purchase of one replacement water truck and Imperial Industries Inc. in the not-to-exceed amount of \$229,163 for the purchase of one replacement vacuum pumper truck and authorize funding of \$20,633.84 in contingency for a total funding request of \$507,719.84 for the 2024 Vehicle Replacement Program, Project No. 24003.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

12. Office of the General Counsel/Engineering (Leeper/Deason)

Consider awarding contract change orders to Zanjero, Inc. in the not-to-exceed amount of \$76,044 for hydrologic modeling services and AECOM in the not-to-exceed amount of \$93,265 for environmental services and authorize additional funding of \$25,000 for capitalized labor for a total funding request of \$194,309 for the Permit 21112 Change in Point of Diversion, Project No. 16003.

Option 1: Award contract change orders to Zanjero, Inc. in the not-to-exceed amount of \$76,044 for hydrologic modeling services and AECOM in the not-to-exceed amount of \$93,265 for environmental services and authorize additional funding of \$25,000 for capitalized labor for a total funding request of \$194,309 for the Permit 21112 Change in Point of Diversion, Project No. 16003.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

13. Finance (Lane)

Consider ratifying EID General Warrant Registers for the periods ending October 3 and October 10, 2023, and Board and Employee Expense Reimbursements for these periods.

Option 1: Ratify the EID General Warrant Register and Board and Employee Expense Reimbursements as submitted.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommended Action: Option 1.

CLOSED SESSION

A. Public Employee Discipline

Government Code Section 54957

B. Conference with General Counsel – Anticipated Litigation

Government Code Sections 54956.9(d)(2)

(one potential case: developer challenge to Facility Capacity Charges)

REVIEW OF ASSIGNMENTS

ADJOURNMENT

TENTATIVELY SCHEDULED ITEMS FOR FUTURE MEETINGS

Engineering

- Federal Energy Regulatory Commission (FERC) Part 12 Independent Consultant Inspection of Project 184 Dams contract, Action, November 14 (Kessler)
- Swansboro Pump Station Capital Improvement Plan funding, Consent, November 14 (Mackay)
- Motherlode Force Main Phase 3 contract amendment, Consent, November 14 (Carrington)

Finance

- Review of Cost of Service Analysis Preliminary Report, Workshop, November 14 (Bandy)
- 2024-2025 Operating Budget and 2024-2028 Financial Plan, Workshop, November 14 (Bandy)
- 2022 Annual Audit, Action, November 14 (Lane)
- Uniforms and facilities annual contract, Consent, November 14 (Deakyne)

Operations

- Right-of-Way Program update, Information, November 14 (Humbird/Wilson)



MINUTES
REGULAR MEETING OF THE BOARD OF DIRECTORS
District Board Room, 2890 Mosquito Road, Placerville, California
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Board of Directors

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President

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Vice President

George Osborne—Division 1
Director

Pat Dwyer—Division 2
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CALL TO ORDER

President Veerkamp called the meeting to order at 9:00 A.M.

Roll Call Board

Present: Directors Osborne, Dwyer, Veerkamp, Anzini and Day

Staff

Present: General Manager Abercrombie, General Counsel Poulsen and Board Clerk Sullivan

Pledge of Allegiance and Moment of Silence

Director Osborne led the Pledge of Allegiance and Moment of Silence for the unfortunate events in Israel.

ADOPT AGENDA

ACTION: Agenda was adopted.

MOTION PASSED

Ayes: Directors Dwyer, Anzini, Osborne, Veerkamp and Day

COMMUNICATIONS

Awards and Recognitions

General Manager Abercrombie acknowledged Water Professionals Week and recognized EID staff for their contributions and important role in ensuring safe and reliable water, wastewater, recycled water, hydropower and recreation services for our customers and community.

PUBLIC COMMENT

None

COMMUNICATIONS

General Manager

None

Clerk to the Board

None

Board of Directors

Director Anzini reported on her participation on a tour of the French Meadows Restoration Project. She also reported on her attendance at the East Bay Municipal Utility District's Centennial Celebration and Mountain Counties Water Resources Association reception in Amador County.

Director Dwyer commented on a call from a customer in appreciation of EID staff.

Director Veerkamp reported on his attendance at the recent El Dorado Local Agency Formation Commission meeting.

APPROVE CONSENT CALENDAR

ACTION: Consent Calendar was approved.

MOTION PASSED

Ayes: Directors Osborne, Dwyer, Veerkamp, Anzini and Day

CONSENT CALENDAR

1. Clerk to the Board (Sullivan)

Consider approving the minutes of the September 25, 2023 regular meeting of the Board of Directors.

ACTION: Option 1: Approved as submitted.

MOTION PASSED

Ayes: Directors Osborne, Dwyer, Veerkamp, Anzini and Day

2. Engineering (Carrington)

Consider awarding a contract to Syblon Reid Construction in the not-to-exceed amount of \$215,000 for construction of the Marina Village No. 1 Lift Station Emergency Culvert Replacement Project and authorize additional funding of \$20,000 for inspection, \$20,000 for capitalized labor, and \$50,000 in contingencies for a total funding request of \$305,000 for the Marina Village No. 1 Lift Station Emergency Culvert Replacement Project, Project No. 23032.01.

ACTION: Option 1: Awarded a contract to Syblon Reid Construction in the not-to-exceed amount of \$215,000 for construction for the Marina Village No. 1 Lift Station Emergency Culvert Replacement Project and authorized additional funding of \$20,000 for inspection, \$20,000 for capitalized labor, and \$50,000 in contingencies for a total funding request of \$305,000 for the Marina Village No. 1 Lift Station Emergency Culvert Replacement Project, Project No. 23032.01.

MOTION PASSED

Ayes: Directors Osborne, Dwyer, Veerkamp, Anzini and Day

3. Operations (Russell)

Consider authorizing funding in the amounts of \$85,000 for capitalized labor, \$40,000 for asphalt patch paving, \$40,000 for materials and supplies, \$20,000 for sand and gravel, and \$40,000 for concrete remediation services for a total funding request of \$225,000 for the Recycled Water Service Line Replacement Project, Project No. 23036.01.

ACTION: Option 1: Authorized funding in the amounts of \$85,000 for capitalized labor, \$40,000 for asphalt patch paving, \$40,000 for materials and supplies, \$20,000 for sand and gravel, and \$40,000 for concrete remediation services for a total funding request of \$225,000 for the Recycled Water Service Line Replacement, Project No. 23036.01.

MOTION PASSED

Ayes: Directors Osborne, Dwyer, Veerkamp, Anzini and Day

4. Engineering (Brink)

Consider adopting a resolution approving the revised Agreement between El Dorado Irrigation District and the City of Folsom concerning Wastewater and Water Service to a portion of the Folsom Heights development and authorizing the Board President to sign the Agreement.

ACTION: Option 1: Adopted Resolution No. 2023-023, approving the revised Agreement between El Dorado Irrigation District and the City of Folsom concerning Wastewater and Water Service to a portion of the Folsom Heights development and authorizing the Board President to sign the Agreement.

MOTION PASSED

Ayes: Directors Osborne, Dwyer, Veerkamp, Anzini and Day

END OF CONSENT CALENDAR

WORKSHOP ITEMS

5. Engineering (Mueller)

2024-2028 Capital Improvement Plan Workshop.

ACTION: None – Information only.

6. Finance (Bandy)

Cost of Service Analysis Workshop.

Public Comment: Mike Ranalli, President, El Dorado County Farm Bureau
Tom Sinton, Starfield Vineyards addressed the Board and provided a handout titled “Cost of Ag Water in Selected Districts”
Dave Bolster, El Dorado County Ag Commissioner
Paul Bush, Madrona Vineyards and Rucksack Cellars
Charlie Mansfield, Goldbud Farms
Greg Boeger, Boeger Winery
Lloyd Walker, Walker Vineyard

ACTION: None – Information only.

INFORMATION ITEMS

7. Office of the General Manager/Office of the General Counsel (Abercrombie/Poulsen)

Key Performance Indicators and Goals update.

ACTION: None – Information only.

ACTION ITEMS

8. Finance (Lane)

Consider ratifying EID General Warrant Registers for the periods ending September 19 and September 26, 2023, and Board and Employee Expense Reimbursements for these periods.

Director Veerkamp recused himself from the deliberations and vote on this Item.

ACTION: Option 1: Ratified the EID General Warrant Registers and Board and Employee Expense Reimbursements as submitted.

MOTION PASSED

Ayes: Directors Anzini, Dwyer, Osborne and Day

9. Information Technology (Kennedy)

Consider approving Contract Change Order Nos. 12 and 13 to Quantum Resolve in the not-to-exceed amounts of \$391,625.55 and \$313,958.35, respectively, for software integration and implementation, Contract Change Order 2 to Raftelis, Inc. in the not-to-exceed amount of \$90,000 for project management support, and authorize total additional funding of \$400,000 for the Hansen Core Software Upgrade Project, Project No.18055.

ACTION: Option 1: Approved Contract Change Order Nos. 12 and 13 to Quantum Resolve in the not-to-exceed amounts of \$391,625.55 and \$313,958.35, respectively, for software integration and implementation, Contract Change Order 2 to Raftelis, Inc. in the not-to-exceed amount of \$90,000 for project management support, and authorized total additional funding of \$400,000 for the Hansen Core Software Upgrade Project, Project No.18055.

MOTION PASSED

Ayes: Directors Dwyer, Day, Osborne, Veerkamp and Anzini

10. Engineering (Brink)

Consider adopting a Water Supply Assessment for the proposed Town and Country Village El Dorado Project.

ACTION: Option 1: Adopted a Water Supply Assessment for the proposed Town and Country Village El Dorado Project.

MOTION PASSED

Ayes: Directors Osborne, Dwyer, Veerkamp, Anzini and Day

CLOSED SESSION

A. Public Employee Employment/Performance Evaluation

Government Code Section 54957(b)(1)

Position Title: General Manager. Annual performance review.

ACTION: The Board met but took no reportable action.

Closed Session continued

B. Public Employee Employment/Performance Evaluation

Government Code Section 54957(b)(1)

Position Title: General Counsel. Annual performance review.

ACTION: The Board met but took no reportable action.

REVIEW OF ASSIGNMENTS

Director Dwyer requested that staff provide an update the District's Right-of-Way Program and status of easements along the Sly Park intertie.

ADJOURNMENT

President Veerkamp adjourned the meeting at 1:20 P.M.

Brian K. Veerkamp
Board President
EL DORADO IRRIGATION DISTRICT

ATTEST

Jennifer Sullivan
Clerk to the Board
EL DORADO IRRIGATION DISTRICT

Approved: _____

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider adopting a resolution affirming the General Manager's authority to execute a grant agreement for \$787,500 from the California Department of Forestry and Fire Protection's California Climate Investments Wildfire Prevention Program for the El Dorado Canal Fuel Break Project.

PREVIOUS BOARD ACTION

None

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 2020 Role of the General Manager
BP 3060 Contracts and Procurement
BP 5010 Water Supply Management
BP 5050 Watershed Management

SUMMARY OF ISSUE

The California Department of Forestry and Fire Protection (Cal Fire) is awarding the District \$787,500 in grant funding for the El Dorado Canal Fuel Break Project. The grant funds will be utilized to create a 600-foot shaded fuel break along approximately three miles of the El Dorado Canal to protect four of the District's wooden flumes. The grant procedures require a Board resolution to authorize the General Manager to sign the grant agreement and associated documents.

BACKGROUND/DISCUSSION

The El Dorado Canal provides one-third of the District's potable drinking water that is delivered to over 125,000 residents in El Dorado County. Wood-constructed flumes along the El Dorado Canal are susceptible to damage from wildfire, as demonstrated by the 2021 Caldor Fire that destroyed four wooden flumes and resulted in an extended outage of this critical water conveyance facility.

The El Dorado Canal Fuel Break Project (Project) involves reducing hazardous fuels and establishing a 600-foot shaded fuel break, up to 300 feet, on each side of approximately three miles of the El Dorado Canal. The treatments would start immediately west of the Caldor Fire burn scar and continue west, terminating on District property adjacent to a recently completed fuel break conducted by Sierra Pacific Industries. The Project will protect over 5,700 feet of wooden flumes, including flumes 42/43, 45, 45A, and 46. The Project is located on District-owned property and lands administered by the U.S. Forest Service Eldorado National Forest (USFS). A combination of hand treatments, mechanical mastication, chipping, and burn piles will be utilized to reduce hazardous fuels within the Project area. The Project is designed to eliminate the vertical and horizontal continuity of hazardous fuels to effectively reduce the rate of fire spread, wildfire duration and intensity, fuel ignitability, and the ignition of tree crowns to protect the District's critical infrastructure.

The \$787,500 in grant funding will be used for contractor services to perform the work. The District's in-kind cost share is \$131,780 to provide staff support and contractual services (e.g., Registered Professional Forester (RPF) and environmental services).

Project Implementation

Staff has determined that the activities associated with implementing the Project on District property are exempt from the California Environmental Quality Act and are currently engaged in the environmental review process for work to be performed on USFS lands. This process is anticipated to be completed in early 2024. Staff will hire an RPF to help develop the bid documents for the Project this fall and winter, with anticipated advertising for bids in spring 2024. Work is planned to begin in August 2024 and continue to late 2025 following the completion of necessary environmental clearance surveys.

BOARD OPTIONS

Option 1: Adopt a resolution affirming the General Manager's authority to execute a grant agreement for \$787,500 from the California Department of Forestry and Fire Protection's California Climate Investments Wildfire Prevention Program for the El Dorado Canal Fuel Break Project.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

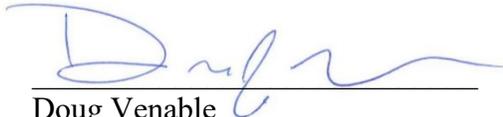
Option 1

ATTACHMENTS

Attachment A: Proposed Board resolution

Attachment B: El Dorado Canal Fuel Break Project Grant award letter

Attachment C: El Dorado Canal Fuel Break Grant Agreement



Doug Venable
Environmental Review Analyst



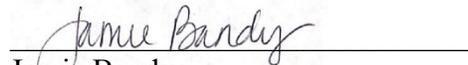
Brian Deason
Environmental Resources Supervisor



Brian Mueller
Engineering Director



Dan Corcoran
Operations Director



Jamie Bandy
Finance Director



Brian Poulsen
General Counsel



Jim Abercrombie
General Manager

1 **RESOLUTION OF THE BOARD OF DIRECTORS OF**
2 **EL DORADO IRRIGATION DISTRICT**
3 **APPROVING THE GRANT AGREEMENT FOR THE**
4 **CALIFORNIA CLIMATE INVESTMENTS WILDFIRE PREVENTION PROGRAM**
5 **EL DORADO CANAL FUEL BREAK PROJECT (GRANT NUMBER 5GG22105)**
6 **ADMINISTERED BY THE CALIFORNIA DEPARTMENT**
7 **OF FORESTRY AND FIRE PROTECTION**

8 WHEREAS, the Governor of the State of California in cooperation with the California State
9 Legislature has enacted State of California Climate Investment, which provides funds to the State of
10 California and its political subdivisions for fire prevention programs; and

11 WHEREAS, the State Department of Forestry and Fire Protection (Cal Fire) has been delegated
12 the responsibility for the administration of the program within the State, setting up necessary
13 procedures governing application by local agencies, non-profit organizations, and others under the
14 program; and

15 WHEREAS, the procedures established by Cal Fire for the program require a Board resolution
16 granting authority to execute necessary documents to receive grant funding; and

17 WHEREAS, the El Dorado Irrigation District (District) wishes to enter into a grant agreement
18 with the State of California to carry out the El Dorado Canal Fuel Break Project: 5GG22105 (Project)
19 and utilize available grant funding under the program for the Project.

20 NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the El Dorado Irrigation
21 District that this Board:

- 22 1. Affirms that the General Manager has the authority to execute the Grant Agreement in the
23 amount of \$787,500.00 as stated in Board Policy 2020 Role of General Manager; and
- 24 2. Authorizes the General Manager or General Manager’s designee, to conduct all negotiations,
25 execute and submit all documents including, but not limited to applications, agreements,
26 amendments, payment requests and so on, which may be necessary for the completion of the
27 aforementioned Project.
3. Certifies that the District has or will have sufficient funds to operate and maintain the Project.
4. Certifies that funds under the jurisdiction of Board of Directors of the El Dorado Irrigation
 District are available to begin the Project.
5. Certifies that the District will expend grant funds prior to the March 15, 2029 deadline
 specified under the Wildfire Prevention Grants Program for Fiscal Year 2022-2023.



DEPARTMENT OF FORESTRY AND FIRE PROTECTION

P.O. Box 944246
SACRAMENTO, CA 94244-2460
(916) 653-7772
Website: www.fire.ca.gov



July 26, 2023

Doug Venable
El Dorado Irrigation District
2890 Mosquito Road
Placerville, CA 95667

RE: PROJECT APPLICATION FOR THE CAL FIRE CALIFORNIA CLIMATE INVESTMENTS (CCI) WILDFIRE PREVENTION (WP) GRANTS

Dear Applicant:

The Department of Forestry and Fire Protection (CAL FIRE) is pleased to inform you that your application for the grant project entitled **El Dorado Canal Fuel Break Project (22-WP-AEU-48124837)** has been selected for funding.

You will receive the full agreement with instructions via email within 60 days. All documents must be returned to CAL FIRE no later than **October 31, 2023**. Failure to return documents by this date may result in loss of funding. It is important that you do not start on your grant project until you have received a confirmation that your grant agreement has been fully executed.

Please coordinate with your appropriate region staff to validate the polygons that were previously submitted for your project application. In addition, you may be required to provide information to complete the required emissions calculations for your project per the required Quantification Methodology. You will be contacted if this information is needed.

We look forward to working with you on your grant project. If you have any additional questions, please contact **Patrick McDaniel** at **(530) 647-5288** or **Patrick.McDaniel@fire.ca.gov**.

Sincerely,

A handwritten signature in blue ink that reads "Natalie B.".

Natalie Burke
Staff Services Manager I
Wildfire Prevention Grants Program Manager



DEPARTMENT OF FORESTRY AND FIRE PROTECTION

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SACRAMENTO, CA 94244-2460
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September 25, 2023

Doug Venable
El Dorado Irrigation District
2890 Mosquito Road
Placerville, CA 95667

5GG22105; El Dorado Irrigation District “El Dorado Canal Fuel Break Project”

This Agreement cannot be considered binding on either party until approved by appropriate authorized CAL FIRE designee. No services should be provided prior to approval, as the State is not obligated to make any payments on any Agreement prior to final approval. FAILURE TO RETURN ALL DOCUMENTS BY DATE BELOW MAY RESULT IN LOSS OF FUNDING.

Please contact Patrick McDaniel at (530) 647-5288 if you have questions concerning services to be performed.

1. Full grant agreement including terms and conditions, project grant application form, scope of work, budget, map, and other exhibits enclosed. Please sign, scan, and return the agreement to Bobby Nguyen at Bobby.Nguyen@fire.ca.gov no later than **October 31, 2023**.

Alternatively, you may opt to print (single sided), sign in blue ink, and return the agreement with original signature to:
CAL FIRE

Attn: Grants Management Unit/WP Grants
P.O. Box 944246
Sacramento, CA 94244-2460

In order to expedite your agreement, a scanned/electronic signature copy of the agreement is preferred.

2. Enclosed for your record is one fully executed copy of the agreement referenced above. When billing for services performed under this agreement, your invoices must reference the agreement number above and be submitted to the contract manager.

Thank you,

Bobby Nguyen
Grants Analyst
Grants Management Unit

Enclosures

State of California
 Department of Forestry and Fire Protection (CAL FIRE)
 Office of the State Fire Marshall
GRANT AGREEMENT

APPLICANT: El Dorado Irrigation District
PROJECT TITLE: El Dorado Canal Fuel Break Project
GRANT AGREEMENT: 5GG22105

PROJECT PERFORMANCE PERIOD is from date of latter signature by CAL FIRE Deputy Director or Grantee through March 15, 2029.

Under the terms and conditions of this Grant Agreement, the applicant agrees to complete the project as described in the project description, and the State of California, acting through the Department of Forestry & Fire Protection, agrees to fund the project up the total state grant amount indicated.

PROJECT DESCRIPTION: Implement approximately 225 acres of hazardous fuels treatments to protect four wood-constructed flumes, extend landscape level fuels treatments, establish defensible space around critical infrastructure, and reduce the spread of wildfire.

Total State Grant not to exceed \$ 787,500.00 (or project costs, whichever is less).

**The Special and General Provisions attached are made a part of and incorporated into this Grant Agreement.*

<p>El Dorado Irrigation District</p> <hr/> <p style="text-align: center;">Applicant</p>	<p>STATE OF CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION</p> <hr/>
<p>By _____</p> <p style="text-align: center;">Signature of Authorized Representative</p>	<p>By _____</p>
<p>Print Name/ Title: _____</p>	<p>Title: Daniel Berlant, Deputy Director</p>
<p>Date _____</p>	<p>Date _____</p>

CERTIFICATION OF FUNDING

GRANT AGREEMENT NUMBER 5GG22105	PO ID	SUPPLIER ID
FUND 3228	FUND NAME Greenhouse Gas Reduction Fund	
PROJECT ID N/A	ACTIVITY ID N/A	AMOUNT OF ESTIMATE FUNDING \$ 787,500.00
GL UNIT 3540	BUD REF 601	ADJ. INCREASING ENCUMBRANCE \$ 0.00
PROGRAM NUMBER 2470010	ENY 2021	ADJ. DECREASING ENCUMBRANCE \$ 0.00
ACCOUNT 5340580	ALT ACCOUNT 5340580000	UNENCUMBERED BALANCE \$ 787,500.00
REPORTING STRUCTURE 35405909	SERVICE LOCATION 96217	

Acknowledged - I hereby certify upon my personal knowledge that budgeted funds are available for this encumbrance.

 Certification of CAL FIRE Accounting Officer

 Date

TERMS AND CONDITIONS OF GRANT AGREEMENT

I. RECITALS

1. This Agreement, is entered into between the State of California, by and through the California Department of Forestry and Fire Protection (CAL FIRE), hereinafter referred to as “STATE” and, El Dorado Irrigation District, hereinafter referred to as “GRANTEE”.
2. The STATE hereby grants to GRANTEE a sum (hereinafter referred to as “GRANT FUNDS”) not to exceed Seven Hundred Eighty Seven Thousand Five Hundred Dollars (\$787,500.00).
3. In addition to the terms and conditions of this Agreement, the STATE and GRANTEE agree that the terms and conditions contained in the documents set forth below are hereby incorporated and made part of this agreement.
 - a. California Climate Investments Department of Forestry and Fire Protection Wildfire Prevention Grants Program Procedural Guide 2022-2023
 - b. The submitted Application, Scope of Work, Project Workbook, GHG Emissions Workbook and Exhibits
 - c. ADDENDUM – CALIFORNIA CLIMATE INVESTMENTS (CCI) GRANT PROJECTS

II. SPECIAL PROVISIONS

1. Recipients of GRANT FUNDS pursuant to California Public Resources Code Section §4124.5 shall abide by the provisions in this Agreement. This includes the requirement that work shall not commence prior to the execution of this Agreement by both parties. Any work started prior to the execution of this Agreement will not be eligible for funding under the terms of this Agreement.
2. As precedent to the STATE’s obligation to provide funding, GRANTEE shall provide to the STATE for review and approval a detailed budget, specifications, and project description. Approval by the STATE of such plans and specifications, or any other approvals provided for in this Agreement, shall be for scope and quality of work, and shall not relieve GRANTEE of the obligation to carry out any other obligations required by this Agreement, in accordance with applicable law or any other standards ordinarily applied to such work or activity.
3. All informational products (e.g., data, studies, findings, management plans, manuals, photos, etc.) relating to California’s natural environment produced with the use of GRANT FUNDS shall be available for public use.

III. GENERAL PROVISIONS

1. Definitions

- a. The term “Agreement” means grant agreement number 5GG22105.
- b. The term “GRANT FUNDS” means the money provided by the STATE to the GRANTEE in this Agreement.
- c. The term “GRANTEE” means an applicant who has a signed Agreement for the award for GRANT FUNDS.
- d. The term “Other Sources of Funds” means all matching fund sources that are required or used to complete the Project beyond the GRANT FUNDS provided by this Agreement.
- e. The term “STATE” means the State of California, Department of Forestry and Fire Protection (CAL FIRE).
- f. The term “Project” means the development or other activity described in the “Project Scope of Work”.
- g. The term “Project Budget Detail” as used herein defines the approved budget plan.
- h. The term “Project Scope of Work” as used herein means the individual scope of work describing in detail the approved tasks.

2. Project Representatives

The project representatives during the term of the agreement will be:

STATE: CAL FIRE	GRANTEE: El Dorado Irrigation District
Section/Unit: AEU	Section/Unit: N/A
Attention: Patrick McDaniel	Attention: Doug Venable
Mailing Address: 2840 Mt. Danaher Road Camino, CA 95709	Mailing Address: 2890 Mosquito Road Placerville, CA 95667
Phone Number: (530) 647-5288	Phone Number: 5306424187
Email Address: Patrick.McDaniel@fire.ca.gov	Email Address: dvenable@eid.org

Changes to the project representatives during the term of the agreement shall be made in writing. Notice shall be sent to the above representative for all notice provisions of this Agreement.

3. Project Execution

- a. Subject to the availability of grant monies, the STATE hereby grants to the GRANTEE a sum of money (GRANT FUNDS) not to exceed the amount stated on Section I. RECITALS, Paragraph 2 in consideration of and on condition that the sum be expended in carrying out the purposes as set forth in the description of the Project in this Agreement and its attachments and under the terms and conditions set forth in this Agreement.
- b. GRANTEE shall assume any obligation to furnish any additional funds that may be necessary to complete the Project. Any amendment to the Project as set forth in the Application on file with the STATE must be submitted to the STATE for approval in writing. No amendment is allowed until written approval is given by the STATE.
- c. GRANTEE shall complete the Project in accordance with the time of Project performance set forth in this Agreement, unless an amendment has been approved and signed by the STATE under the terms and conditions of this Agreement. Amendments must be requested in advance and will be considered in the event of circumstances beyond the control of the GRANTEE, but no less than 60 days from the Agreement expiration date. The STATE may waive the minimum timeframe for amendments at their discretion. Approval of amendment is at the STATE's discretion.
- d. GRANTEE certifies that the Project Scope of Work complies with all local, State, and federal laws and regulations.
- e. GRANTEE shall comply with the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000, et. seq. Title 14, California Code of Regulations, Section 15000 et. seq.) and all other local, State, and federal environmental laws. A copy of the certified CEQA document must be provided to STATE before any GRANT FUNDS are made available for any Project activity that could directly impact the environment (e.g. cutting, piling or burning bush, masticating, dozer work, etc.). CEQA compliance shall be completed within one (1) year from start date of the Agreement. The start date is considered the latter date of signature by the Grantee Authorized Representative or CAL FIRE Deputy Director. GRANT FUNDS will be made available in advance of CEQA compliance for project activities that do not have the potential to cause a direct environmental impact (e.g. project planning, locating and marking

property or project boundaries, contacting and signing up landowners, etc.).

- f. GRANTEE shall permit periodic site visits by representative(s) of the STATE to ensure program compliance and that work is in accordance with the approved Project Scope of Work, including a final inspection upon Project completion.
- g. GRANTEE, and the agents and employees of GRANTEE, in the performance of this Agreement, shall act in an independent capacity and not as officers, employees, or agents, of the STATE. No person who, as an officer, employee, or agent of the STATE participated in the preparation or creation of or determination to award this Grant Agreement shall serve as an agent or employee of GRANTEE including but not limited to those acts prohibited by Government Code Sections 1090, and 87100.

4. Project Costs and Payment Documentation

- a. Payment by the STATE shall be made after receipt of an acceptable invoice and approval by a duly authorized representative of the STATE. GRANTEE shall submit an invoice for payment to the CAL FIRE Project Representative of the STATE. A final invoice shall be submitted no later than 30 days after completion, expiration, or termination of this Agreement.
- b. For services satisfactorily rendered, and upon receipt and approval of invoices for payment, the STATE agrees to compensate GRANTEE for actual expenditures incurred in accordance with the rates and activities specified in the Final Project Budget Detail, Application, Scope of Work and Exhibits, and made a part of this Agreement.
- c. Equipment purchased using GRANT FUNDS, wholly or in part, must be used by the GRANTEE for the project for which it was acquired. STATE retains a vested interest in the equipment for the useful life of the equipment, even after completion of the grant. GRANTEE shall provide written disposition of the equipment upon completion of the grant and upon any changes to the disposition of the equipment. Such disposition must be approved in advance by STATE. Equipment purchased using GRANT FUNDS cannot be used as collateral, financed, or sold without prior written approval from the STATE. Grantee must provide reporting on equipment disposition no less frequently than biannually to CAL FIRE or upon CAL FIRE's request after completion of the grant project until notified in writing by the CAL FIRE Wildfire Prevention Grant Program that additional reporting is no longer required.

- d. GRANTEE shall submit, in arrears, not more frequently than once a month, and required quarterly, an invoice to the STATE for costs paid by GRANTEE pursuant to this Agreement. In the event no expenses are incurred, GRANTEE shall identify that no costs have been incurred within the respective quarterly progress report in lieu of submitting a zero balance invoice. Each invoice shall contain the following information: the Agreement number, the dates or time period during which the invoiced costs were incurred, signature of an authorized representative of GRANTEE, expenditures for the current invoice and cumulative expenditures to date by major budget category (e.g., salaries, benefits, supplies, etc.), match funds when applicable, and appropriate supporting documentation consistent with the Project Costs section, as detailed in the California Climate Investments Department of Forestry and Fire Protection Wildfire Prevention Grants Program Procedural Guide 2022-2023.
- e. GRANT FUNDS in this Agreement have a limited period in which they must be expended. All GRANTEE expenditures must occur prior to the end of the Project performance period of this Agreement.
- f. Except as otherwise provided herein, GRANTEE shall expend GRANT FUNDS in the manner described in the Budget approved by the STATE. The dollar amount of an item in a budget category may be increased or decreased by up to ten percent (10%) of the budget item through reallocation of funds from other budget categories, without approval by the STATE; however, GRANTEE shall notify the STATE in writing when any such reallocation is made, and shall identify both the item(s) being increased and those being decreased. Any increase or decrease of an item of more than ten percent (10%) of the budget category must be approved in writing by the STATE before any such increase or decrease is made. A formal approved amendment is required to increase the total amount of GRANT FUNDS.
- g. GRANTEE shall promptly submit any and all records at the time and in the form as the STATE may request.
- h. GRANTEE shall submit each invoice for payment electronically using the grants management system identified by CAL FIRE. Hard copy submissions will not be accepted.
- i. Notwithstanding any of the provisions stated within this Agreement, the STATE may at its discretion make advance payment from the grant awarded to the GRANTEE if GRANTEE is a nonprofit organization, a local agency, a special district, a private forest landowner or a Native American tribe. Advance payment made by the STATE shall be subject to the following provisions.

- GRANTEE shall submit a written request identifying how funds will be used over a six-month period. The written request must be accompanied by an invoice that contains the same level of detail as a regular invoice.
 - GRANTEE shall file an accountability report with STATE four months from the date of receiving the funds and every four months thereafter.
 - Multiple advance payments may be made to a GRANTEE over the life of a project.
 - No single advance payment shall exceed 25% of the total grant amount. For grants funding equipment, the maximum advance request may be increased up to 50% of the total grant amount or cost of equipment purchase, whichever is less. Advance funds and must be spent on eligible costs within six months of the advance payment receipt.
 - GRANTEE may request additional time to spend advance funds but must be approved in writing by the STATE. CAL FIRE will bill for the return of unliquidated advance funds after the approved timeframe..
 - All work under a previous advance payment must be fully liquidated via an invoice and supporting documentation and completed to the STATE's satisfaction before another advance payment will be made.
 - Any advance payment received by a GRANTEE and not used for project eligible costs within the time period approved by STATE shall be returned to the STATE. The amount will be returned to the grant balance.
 - Advance payments must be deposited into an interest-bearing account. Any interest earned on advance payment funds must be accounted for and used toward offsetting the project cost or returned to the STATE.
- j. The GRANTEE shall immediately reimburse or credit, as determined by the STATE, the STATE for any over payment of any invoice, including final invoice, when either party determines an overpayment was made.

5. Budget Contingency Clause

- a. If STATE funding for any fiscal year is reduced or deleted for purposes of the Wildfire Prevention Program California Climate Investments Grant Program, the STATE shall have the option to either cancel this Agreement with no liability occurring to the STATE, or if possible and desirable, offer an Agreement amendment to GRANTEE to reflect the reduced amount available for the Project.

6. Project Administration

- a. GRANTEE must report to the STATE all sources of other funds for the Project. If this provision is deemed to be violated, the STATE will request an audit of GRANTEE and can delay the disbursement of funds until the matter is resolved.
- b. GRANTEE shall promptly submit written Project reports as the STATE may request throughout the term of this Agreement.
- c. GRANTEE shall submit a final accomplishment report, final invoice with associated supporting documentation, and copies of materials developed using GRANT FUNDS, including but not limited to plans, educational materials, etc. within 30 days of Project completion.

7. Financial Records

- a. GRANTEE shall retain all records described in Section 7(c) below for three (3) years after final payment by the STATE. In the case an audit occurs, all such records shall be retained for one (1) year from the date the audit is completed or the three (3) years, whichever date is later.
- b. GRANTEE shall maintain satisfactory financial accounts, documents, and records for the Project and make them available to the STATE for review during reasonable times. This includes the right to inspect and make copies of any books, records, or reports of GRANTEE pertaining to this Agreement or matters related thereto.
- c. GRANTEE shall keep such records as the STATE shall prescribe, including, but not limited to, records which fully disclose (a) the disposition of the proceeds of state funding assistance, (b) the total cost of the Project in connection with such assistance that is given or used, (c) the amount and nature of that portion of the Project cost supplied by other sources, and (d) any other such records as will facilitate an effective audit. All records shall be made available to the STATE, other State of California agency, or other entity as determined by the State of California for auditing purposes at reasonable times.
- d. GRANTEE shall use any generally accepted accounting system.

8. Research

- a. GRANTEE that receives funding, in whole or in part, in the form of a research grant shall provide for free public access to any publication of a peer-reviewed manuscript describing STATE funded knowledge, STATE

funded invention, or STATE funded technology shall be subject to the following conditions:

- i. GRANTEE is responsible for ensuring that any publishing or copyright agreements concerning peer-reviewed manuscripts fully comply with this section
 - ii. GRANTEE shall report to STATE the final disposition of the peer-reviewed manuscript, including, but not limited to, if it was published, date of publication, where it was published, and, when the 12-month time period from official date of publication expires, where the peer-reviewed manuscript will be available for open access.
- b. For a peer-reviewed manuscript that is accepted for publication pursuant to the terms and conditions of this Agreement, the GRANTEE shall ensure that an electronic version of the peer-reviewed manuscript is available to STATE and on an appropriate publicly accessible repository approved by the state agency, including, but not limited to, the University of California's eScholarship Repository at the California Digital Library, the California State University's ScholarWorks at the Systemwide Digital Library, or PubMed Central, to be made publicly available not later than 12 months after the official date of publication. GRANTEE shall make reasonable efforts to comply with this requirement by ensuring that the peer-reviewed manuscript is accessible on an approved publicly accessible repository, including notifying the state agency that the manuscript is available on a state-agency-approved repository. If the grantee is unable to ensure that his or her manuscript is accessible on an approved, publicly accessible repository, the grantee may comply by providing the manuscript to the state agency not later than 12 months after the official date of publication.
- c. For publications other than those described in (b), including scientific meeting abstracts, GRANTEE shall comply by providing the manuscript to the STATE not later than 12 months after the official date of publication.
- d. The grant shall not be construed to authorize use of a peer-reviewed manuscript that would constitute an infringement of copyright under the federal copyright law described in Section 101 of Title 17 of the United States Code and following.
- e. Use of GRANT FUNDS for publication costs, including fees charged by a publisher for color and page charges, or fees for digital distribution are allowable costs but must be within the GRANT FUNDS and item 4 of the agreement.

- f. GRANTEE may request a waiver to the publication requirement if GRANTEE has an existing publication requirement that meets or exceeds the requirements of the research provision. Waiver shall include information on GRANTEE's existing requirements. Approval of the waiver is at STATE's discretion.

9. Project Termination

- a. This Agreement may be terminated by the STATE or GRANTEE upon 30-days written notice to the other party.
- b. If either party terminates the Agreement prior to the completion of the Project, GRANTEE shall take all reasonable measures to prevent further costs to the STATE under the Agreement and the STATE shall be responsible for any reasonable and non-cancelable obligations incurred by GRANTEE in the performance of this Agreement prior to the date of the notice to terminate, but only up to the undisbursed balance of funding authorized in this Agreement.
- c. Failure by GRANTEE to comply with the terms of this Agreement may be cause for suspension of all obligations of the STATE hereunder at the discretion of the STATE.
- d. Failure of GRANTEE to comply with the terms of this Agreement shall not be cause for the suspension of all obligations of the STATE hereunder if in the judgment of the STATE such failure was due to no fault of GRANTEE. At the discretion of the STATE, any amount required to settle at minimum cost any irrevocable obligations properly incurred shall be eligible for reimbursement under this Agreement.
- e. Final payment to GRANTEE may not be made until the STATE determines the Project conforms substantially to this Agreement.

10. Hold Harmless

- a. GRANTEE shall defend, indemnify and hold the STATE, its officers, employees, and agents harmless from and against any and all liability, loss, expense (including reasonable attorney's fees), or claims for injury or damages arising out of the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorney's fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of GRANTEE, its officers, agents, or employees. The duty of GRANTEE to indemnify and hold harmless includes the duty to defend as set forth in Civil Code Section 2778. This Agreement supersedes GRANTEE's right as a public entity to indemnity

(see Government Code Section 895.2) and contribution (see Government Code Section 895.6) as set forth in Government Code Section 895.4.

- b. GRANTEE waives any and all rights to any type of express or implied indemnity or right of contribution from the STATE, its officers, agents, or employees for any liability resulting from, growing out of, or in any way connected with or incident to this Agreement.
- c. Nothing in this Agreement is intended to create in the public or in any member of it rights as a third-party beneficiary under this Agreement.

11. Tort Claims

FEDERAL:

The United States shall be liable, to the extent allowed by the Federal Tort Claims Act 28 United States Code 2671-2680, for claims of personal injuries or property damage resulting from the negligent or wrongful act or omission of any employee of the United States while acting within the scope of his or her employment, arising out of this Agreement.

STATE:

The State of California shall be liable, to the extent allowed by law and subject to California Government Code, Title 1, Division 3.6, providing for the filing of tort claims against the State of California, for personal injuries or property damage resulting from the negligent or wrongful act or omission of State of California employees while acting within the scope of his or her employment, arising out of this Agreement.

12. Nondiscrimination

The State of California prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, sex, marital status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. GRANTEE shall not discriminate against any person on any of these bases.

13. Conflict of Interest

GRANTEE or anyone acting on behalf of GRANTEE shall not have any conflicting personal and/or financial interests in carrying out the duties of the Agreement.

14. Incorporation

The grant guidelines and the Project Scope of Work, Project Budget Detail and any subsequent amendments or modifications to the Project Scope of Work and Project Budget Detail approved in writing by the STATE are hereby incorporated by reference into this Agreement as though set forth in full in this Agreement.

15. Severability

If any provision of this Agreement or the Project Scope of Work thereof is held invalid, that invalidity shall not affect other provisions or applications of this Agreement which can be given effect without the invalid provision or application, and to this end the provisions of this Agreement are severable.

16. Waiver

No term or provision hereof will be considered waived by either party, and no breach excused by either party, unless such waiver or consent is in writing and signed on behalf of the party against whom the waiver is asserted. No consent by either party to, or waiver of, a breach by either party, whether expressed or implied, will constitute consent to, waiver of, or excuse of any other, different, or subsequent breach by either party.

17. Assignment

This Agreement is not assignable by GRANTEE either in whole or in part.

18. Survival Clause

The obligations of the Parties under Section III General Provisions, Items 4 (c) and (j) of the Project Costs and Payment Documentation and Item 10 Hold Harmless of this Agreement shall survive the termination or expiration of the Agreement.

ADDENDUM – CALIFORNIA CLIMATE INVESTMENTS (CCI) GRANT PROJECTS

I. SPECIAL PROVISIONS

1. Grant funds shall be used on projects with the primary goal of reducing greenhouse gases (GHGs) and furthering the purposes of California’s Global Warming Solutions Act of 2006, Division 25.5 (commencing with Section 38500) of the Health and Safety Code, and related statutes.
2. Grant funds shall be used on projects limited to specific activities as described in CCI Grants Procedural Guides.
3. Grantee shall report project and benefits information when requested by the State. This may include, but is not limited to, funding expended, acres treated, GHG emissions, trees planted, disadvantaged community benefits, energy/water savings, job creation, and other co-benefits.
4. Grantee shall maintain accurate and detailed records documenting project description, project location, and schedule, CCI dollars allocated, and leveraged funds throughout the duration of the project.
5. Failure of Grantee to meet the agreed upon terms of achieving required GHG reduction may result in project termination and recovery of funds.

II. MONITORING AND REPORTING REQUIREMENTS

All funds expended through CCI are subject to emissions reporting and requirements. Grantee is expected to provide the appropriate materials for completing program quantification methodology. Grantee shall use the current reporting template provided by the STATE. The reporting shall be submitted to the STATE no less frequently than quarterly. In addition, STATE may request additional information in order to meet current CARB reporting requirements. The requirements are available on the CARB CCI Quantification, Benefits and Reporting Materials webpage:

<https://ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials>.

III. PROGRAM ACKNOWLEDGEMENT/RECOGNITION

1. All projects funded both fully and partially by the GGRF must clearly display, identify and label themselves as being part of the “California Climate Investments” program. The acknowledgement must contain the California Climate Investments and CAL FIRE logos as well as the following statement:

“Funding for this project provided by the California Department of Forestry and Fire Protection’s Wildfire Prevention Program as part of the California Climate Investments Program.”

A draft of the acknowledgement must be approved by the STATE prior to publication. For stationary projects, acknowledgement may include, but is not limited to, a sign on the project site. For other project types, such as vehicles, equipment, and consumer-based incentives, acknowledgement is encouraged by using a decal, sticker or other signage.

Guidance on California Climate Investments logo usage, signage guidelines, and high-resolution files are contained in a style guide available at:
www.caclimateinvestments.ca.gov/logo-graphics-request.

2. In addition, all projects funded both fully and partially by GGRF must contain the following statement in public announcements or press releases on said projects:

“El Dorado Canal Fuel Break Project is part of California Climate Investments, a statewide program that puts billions of Cap-and-Trade dollars to work reducing GHG emissions, strengthening the economy, and improving public health and the environment— particularly in disadvantaged communities. The Cap-and-Trade program also creates a financial incentive for industries to invest in clean technologies and develop innovative ways to reduce pollution. California Climate Investments projects include affordable housing, renewable energy, public transportation, zero-emission vehicles, environmental restoration, more sustainable agriculture, recycling, and much more. At least 35 percent of these investments are located within and benefiting residents of disadvantaged communities, low-income communities, and low-income households across California. For more information, visit the California Climate Investments website at: www.caclimateinvestments.ca.gov.”

Application Form

Profile

dvenable@eid.org

Project Information

Project Name/Title

El Dorado Canal Fuel Break Project

In which county is the majority of your project located?

El Dorado County = AEU

The full Project Tracking Number will be auto-generated within Grants Portal. Please use the format 22-WP-UUU and replace your 3-character unit identifier from your selected county above.

22-WP-AEU

Are there additional counties?

No

In which California State Assembly district(s) is your project located?

1st - Alpine, Amador, El Dorado, Lassen, Modoc, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou

In which California State Senate district(s) is your project located?

4th - Alpine, Amador, Calaveras, El Dorado, Inyo, Madera, Mariposa, Merced, Mono, Nevada, Placer, Stanislaus, Tuolumne

Project End Date

03/15/2029

Project Description Summary

Please provide a paragraph summarizing proposed project including the location, habitable structures, acres treated, etc.

The El Dorado Irrigation District (District) proposes to implement approximately 225 acres of hazardous fuels treatments to protect four wood-constructed flumes, extend landscape level fuels treatments, establish defensible space around critical infrastructure, and reduce the spread of wildfire. The District owns and operates the federally licensed El Dorado Canal (Canal) water conveyance system that provides one-third of the District's potable drinking water that is delivered to over 125,000 residents in El Dorado County. The wood-constructed flumes that would be protected by this proposed project are exceptionally susceptible to damage from wildfire as demonstrated by the 2021 Caldor Fire that destroyed four other wooden flumes on the Canal. The District is proposing to utilize a combination of hand treatments, mechanical mastication, chipping, and burn piles to reduce the hazardous fuels and establish a 600-foot fuel break, up to 300 feet on each side of the Canal. The proposed project would establish a shaded fuel break along the Canal and connect to existing fuel breaks located to the west and south of the proposed project area. Hazardous fuels treatments would be located along the Canal starting immediately west of the Caldor Fire burn scar and extending approximately 3 miles west, terminating on District property adjacent to a recently completed fuel break completed by Sierra Pacific Industries. The proposed project activities would occur on District owned property and lands administered by the U.S. Forest Service in the Eldorado National Forest.

Award Request Amount

Total Amount of Award Request

\$787,500.00

Indirect Cost Rate

Are you requesting an Indirect Cost Rate in excess of 12%?

No

Organization Information

Organization Type

Special districts

Board Resolution or Attesting Document

22-WP-AEU-48124837-Board Resolution.pdf

Sponsoring Organization

El Dorado Irrigation District

Project Manager Name

Doug Venable

Project Manager Mailing Address

2890 Mosquito Road

Project Manager Mailing Address Line 2**City**

Placerville

State

California

Zip Code

95667

Project Manager Phone Number

5306424187

Project Manager Email

dvenable@eid.org

Project Activities**For which primary activity is funding being requested?**

Hazardous Fuels Reduction

Primary Vegetation Management Practice Type

Shaded fuelbreak /Understory clearing

Does the project include Grazing as a component of the hazardous fuels reduction project?

No

Does the project include transportation and/or disposal of woody biomass

No

Project Treatment Area**Primary Land Cover Type**

Forest

Primary Land Ownership Class

USDA – FS (non wilderness)

Does your project include work on Tribal Lands?

No

Limiting Factors: Check the box if there are any existing forest or land management plans; Conservation Easements; Covenant, Conditions & Restrictions (CC&R's); matters related to zoning; use restrictions, or other factors that can or will limit the fire prevention proposed activity?

Timber Harvest Plans (THP): For Hazardous Fuels Reduction projects, If there is a timber harvesting document on any portion of the proposed project area for which a "Notice of Completion" has not been filed with CAL FIRE check the box.

California Environmental Quality Act (CEQA) Compliance: Describe how compliance with CEQA will be achieved in the Scope of Work. Is there an existing CEQA document that addresses this project or can be used to meet CEQA requirements?

Please indicate the CEQA document type (For planning, education and other projects that are exempt from CEQA, select "Not Applicable")

Notice of Exemption

Existing Document Identification Number

FW2022-0086 (El Dorado County Recorder-Clerk)

Federal Responsibility Area: Does your project include work on Federal Lands that might require a National Environmental Policy Act (NEPA) document, or use a framework similar to Good Neighbor Authority?

Yes

If yes, select all that apply:

National Environmental Policy Act

Community Metrics

Fire Risk Reduction Community List (FRRC)

Is the Sponsoring Organization a local agency? (city, county, or other publicly funded entity serving a city and/or county)

Yes

If yes, please select from the Fire Risk Reduction Community List options

Not on the FRRC list

If yes, is the Sponsoring Organization reporting defensible space data to CAL FIRE?

Community at Risk: Is the project associated with a community that is listed as a Community at Risk?

Yes

Number of Risk Communities in the project area

1

Disadvantaged/Low Income Community: Is the project associated with a disadvantaged/low-income community?

Yes

If Yes, select all that applies:

Both

Project Area Statistics: For all Hazardous Fuels Reduction projects, provide an estimate of the Treatment Influence Zone (TIZ) acres. Include Local Responsibility Area (LRA), Federal Responsibility Area (FRA) and State Responsibility Area (SRA) as applicable for TIZ.

The Treatment Influence Zones (TIZ) are the treatment areas within a project, where on-the-ground activities are accomplished. There can be multiple treatment areas associated with a project. Wildfire Prevention Planning and Wildfire Prevention Public Education projects will NOT have treatment areas.

Local Responsibility Area (LRA) TIZ acres

Federal Responsibility Area (FRA) TIZ acres

170.00

State Responsibility Area (SRA) TIZ acres

55.00

Total TIZ Acres

225.00

Fire Hazard Severity Zones (FHSZ)

What Fire Hazard Severity Zones (FHSZ) are in the project area? Fire Hazard Severity Zone ratings are available at:

<https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildfire-preparedness/fire-hazard-severity-zones/>. Copy and paste the link or right-click to open in a new tab. Please provide an approximate number of acres or percentage of the project area in each zone.

Number of Acres in the Very High SRA FHSZ

55

Number of Acres in the Very High LRA FHSZ

Number of Acres in the High SRA FHSZ

Number of Acres in the High LRA FHSZ

Number of Acres in the Moderate SRA FHSZ

FHSZ Total Acres

55.00

Document Uploads

Letters of Support

22-WP-AEU-48124837-Letters of Support.pdf

Letters of Commitment

In addition to the online project mapping program treatment Geopoint and polygons, include a pdf map(s) of the project with the project application. The maps shall meet the requirements of Appendix G in the Procedural Guide.

PDF Project Map

22-WP-AEU-48124837-Maps.zip

The below required standard forms can be found in the forms section of the solicitation. To get to the Solicitation Link click back to the solicitation, then click on the three lines next to the application and click the solicitation link.

STD 19 Nondiscrimination Compliance Statement form

22-WP-AEU-48124837-STD 19.pdf

STD 21 A Drug-Free Workplace Certification form

22-WP-AEU-48124837-STD 21.pdf

STD 204 Payee Data Record form

22-WP-AEU-48124837-STD 204.pdf

Miscellaneous Form Upload Field #1

Miscellaneous Form Upload Field #2

Miscellaneous Form Upload Field #3

Project Mapping Program

Project Mapping Program: Create a Geopoint and Polygon(s) via the weblink. copy and paste the link or right-click to open in a new tab: <https://grant-access-calfire-forestry.hub.arcgis.com> The Online Project Mapping Component is a requirement for a complete application submission.

View Budget Worksheet

<https://portal.ecivis.com/#/peerBudget/CD203806-05D0-4972-8275-E6E3798935C1>

Average Score

0.00

Application Goals

View Application Goals

<https://portal.ecivis.com/#/peerGoals/AFB18AB0-87A8-46EF-85E3-35BD61F03B53>

of Reviews

1

of Denials

0

Scope of Work: El Dorado Canal Fuel Break Project

Linked Form Profile

Linked Form Submissions

22-WP-AEU 48124837

Scope of Work

Project Name

El Dorado Canal Fuel Break Project

Project Tracking Number

22-WP-AEU-48124837

Please use the Tracking Number that was automatically assigned by Grants Portal. The format will be 22-WP-UUU-XXXXXXXX

Project Description

Please provide a comprehensive project description including the location, habitable structures, acres treated, etc. (please note there are no space limitations)

The El Dorado Irrigation District (District) proposes to implement approximately 225 acres of hazardous fuels treatments to protect four wood-constructed flumes, extend landscape level fuels treatments, establish defensible space around critical infrastructure, and reduce the spread of wildfire. The District owns and operates the El Dorado Canal (Canal) water conveyance system which is part of the Federal Energy Regulatory Commission (FERC) Project 184. The Canal provides one-third of the District's potable drinking water that is delivered to over 125,000 residents in El Dorado County. The wood-constructed flumes that would be protected by this proposed project are exceptionally susceptible to damage from wildfire as demonstrated by the 2021 Caldor Fire that destroyed four wooden flumes on the Canal system immediately east of this proposed project at a cost of approximately 17 million dollars to replace. The proposed project would establish a shaded fuel break along the Canal and strategically enhance existing fuel breaks located immediately to the west and south of the proposed project area.

The proposed project area is located in the steep slopes and rugged terrain of the South Fork American River (SFAR) canyon, positioned south and approximately 800 feet in elevation upslope of Highway 50 between Pacific House and Riverton in El Dorado County. The close proximity to Highway 50 makes the Canal highly susceptible to wildfire due to the increased risk of wildfire ignitions on major transportation corridors. Several major wildfire ignitions including the Pilliken Fire (1973), Wrights Fire (1981), Cleveland Fire (1992), Freds Fire (2004), and the King Fire (2014) have started on or near Highway 50.

The community of Pollock Pines has approximately 3,500 habitable structures within four miles of the proposed project and is a designated "Community at Risk" and is ranked as a "Very High" Fire Hazard Severity Zone by CALFIRE. Pollock Pines is also rated as a Tier 3 Extreme Fire Threat zone by the California Public Utilities Commission and is designated as a Wildland Urban Interface (WUI) with more than 10,000 habitable structures that could be affected by wildfire. The proposed project is part of a larger, coordinated effort and would enhance ongoing landscape level efforts of regional partners. The Fire Adapted 50 Project would connect to the west end of the proposed project on Hazel Valley Road where Sierra Pacific Industries (SPI) has recently established several fuel breaks located to the south of the proposed project on USFS 10N40. The proposed project would strategically work in concert with these regional partners to strengthen and expand existing fuel breaks in the Wildland Urban Interface of the SFAR watershed.

During the Caldor Fire air attack, firefighters attempted to drop fire retardant and water from fixed wing and rotary aircraft onto the District's wood-constructed flumes. However, poor visibility combined with dense vegetation adjacent to the Canal prevented the aircraft from locating the facilities and ultimately four flumes were destroyed by the fire. The proposed project would establish defensible space and would assist fire suppression efforts by increasing the visibility and access to the Canal from the air and ground in the event of a wildfire.

The District is actively planning to replace all the remaining wooden flumes on the Canal with fire hardened concrete structures through its capital improvement plan. However, this significant investment is estimated to cost over 75 million dollars and will be required to be implemented over the next two decades due to ongoing water supply needs and required capital financing. During the interim, the District is working on efforts to prevent wildfire from damaging the remaining wooden flumes and the proposed project offers the added benefit of substantially improving the survivability and opportunity to defend the vulnerable wooden-constructed flumes until the scheduled replacement can be implemented.

Hazardous fuels treatments would be located along the Canal starting immediately west of the Caldor Fire burn scar and extending approximately 3 miles west terminating on District property adjacent to a recently completed fuel break completed by SPI. The proposed project activities would occur on District owned property and lands administered by the U.S. Forest Service Eldorado National Forest. The District is proposing to utilize a combination of hand treatments, mechanical mastication, and chipping to reduce the hazardous fuels and establish a 600-foot fuel break, up to 300 feet on each side of the Canal. Hand treatments would include cutting high densities of understory conifers and broadleaf trees up to 18-inches diameter breast height (dbh) and brush and shrub species. Felled trees, brush, and resulting slash on steep slopes that cannot be removed or chipped would be lopped and scattered and left in place for decomposition to a resting height of no more than 18- inches from ground level or will be piled and burned if slope and other factors are favorable. Dead and dying trees greater than 18 inches dbh within 300-foot zone each side of the Canal will be felled, limbed, and bucked in 20 foot lengths. Hand cut material located on areas with equipment access would be chipped and broadcasted on-site. Mastication treatments would be utilized on areas where slope conditions and access are feasible. The proposed treatments are designed to eliminate the vertical and horizontal continuity of hazardous fuels that would reduce the rate of fire spread, duration and intensity, fuel ignitability, and the ignition of tree crowns and adjacent critical infrastructure.

Section I

Primary Activity Type

Hazardous Fuels Reduction

Hazardous Fuels Reduction

1. Describe the geographic scope of the project, including an estimate of the number of habitable structures and the names of the general communities that will benefit.

The proposed project area is approximately 225 acres and located in the steep slopes and rugged terrain of the SFAR canyon, positioned south and approximately 800 feet in elevation upslope of Highway 50 between Pacific House and Riverton in El Dorado County. The proposed fuels treatment area is located on District owned parcels and lands administered by U.S. Forest Service Eldorado National Forest. The geographic scope of the proposed project would protect the communities of Pollock Pines and Fresh Pond located to the west. There are approximately 3,500 habitable structures within four miles and 10,000 habitable structures located within seven miles of the proposed project. Additionally, there are several dozen U.S. Forest Service cabins located adjacent to HWY 50 within five miles of the proposed project.

2. Describe the goals, objectives, and expected outcomes of the project.

The goal of the proposed project is to reduce hazardous fuels thereby reducing the rate of fire spread, duration and intensity, fuel ignitability, and the ignition of tree crowns to protect the District's vital drinking water facilities and nearby local communities from the effects of catastrophic wildfire.

Project objectives include:

1. Protect critical water conveyance facilities from wildfire by reducing hazardous fuel loads adjacent to four wood-constructed flumes on the El Dorado Canal.
2. Extend landscape level fuel break treatments conducted by regional partners located to the west and south of the proposed project area.
3. Establish defensible space around critical water supply infrastructure and increase initial ground and air attack success.

The expected outcome of the proposed project is to create a fuel break that will prevent critical water supply disruption from catastrophic wildfire and enhance existing landscape level fuel break treatments.

3. Provide a clear rationale for how the proposed project will reduce the risks associated with wildfire to habitable structures.

The proposed project area is located in a "Very High" Fire Hazard Severity Zone four miles from approximately 3,500 habitable structures and seven miles from approximately 10,000 habitable structures in the communities of Fresh Pond and Pollock Pines. The proposed project is located between the Highway 50 corridor and established fuel breaks completed by the Fire Adapted 50 project and SPI. The reduction of hazardous fuels would extend these existing fuel breaks and reduce the spread of wildfire from an ignition from Highway 50 and moving west toward the communities of Fresh Pond and Pollock Pines.

4. Identify any additional assets at risk from wildfire that will benefit from the proposed project. These may include, but are not limited to, domestic and municipal water supplies, power lines, communication facilities and community centers.

Public and private assets that are at risk and would benefit from the proposed project includes utility infrastructure, and Eldorado National Forest lands.

Municipal Water Treatment Facilities: The fuels treatments would protect the District's critical water conveyance system. The District provides drinking water to over 125,000 customers in El Dorado County. The proposed project would protect the wood-constructed flumes of the El Dorado Canal that supply approximately one-third of the District's drinking water customers. Disruption of the water supply would have an immediate impact on the potable water supply to residents and potentially impede the ability for fire agencies to provide structure protection and fire suppression.

Electric Distribution and Service Lines: The fuels treatments would help protect numerous electrical distribution and service lines that transect the proposed project vicinity. These electrical supply lines provide power for drinking water booster pumps and communications equipment in the District's conveyance system.

National Forest Lands: The proposed project would reduce the hazardous fuels on approximately 170 acres within the Eldorado National Forest and return the area to a more managed, fire-resistant condition and reduce the rate of wildfire spread to the adjacent forested areas.

5. How will the project/activity utilize the left over woody biomass? Will the project/activity use a biomass facility to reduce greater greenhouse gas emissions?

Due to the steep slopes and rugged terrain of the proposed project area the woody biomass would remain on-site and be treated depending on the access and slope of the treatment area. Approximately 50 acres of the proposed project area is accessible with large equipment and would be masticated with the biomass evenly distributed in the treatments area. Cut material would be chipped and broadcast on-site to enhance slope stabilization in areas accessible with a tracked chipper. In areas that are too steep for a masticator or chipper access and the slope is favorable, the cut material would be piled and burned. In all other areas cut material would be lopped and scattered throughout the treatment area.

The closest active cogeneration/biomass facility is located in Sutter Creek, approximately 40 miles to the south and transporting the biomass from the proposed project location would not be cost-effective or practicable.

6. Does the project include grazing as a component of the hazardous fuels reduction project?

Section II

Degree of Risk

1. Discuss the location of the project in relation to areas of moderate, high, or very high fire hazard severity zone as identified by the latest Fire and Resource Assessment Program maps.

Approximately 55 acres of the proposed project area is located in a State Responsibility Area and is in a Very High Fire Hazard Severity Zone. Approximately 170 acres of the proposed project area is located in a Federal Responsibility Area and does not have a state or local fire severity designation however, the risk factors of drought, slope, vegetation, and burn severity are the same as the adjacent Very High Fire Hazard Severity Zone.

2. Describe the geographic proximity of the project to structures at risk to damage from wildfire in the WUI.

The proposed fuels treatments are located in the WUI along three miles of the District's critical water conveyance systems which supply one-third of the District's water to El Dorado County. The proposed fuels treatments are within 3.5 miles of the communities of Fresh Pond and Pollock Pines and include a wide-range of structures at risk such as single-family homes, residential neighborhoods, trails, office buildings, parking areas, roadways, and various other structures throughout the community.

Section III

Community Support

1. Does the project include any matching funds from other funding sources or any in-kind contributions that are expected to extend the impact of the proposed project?

The District will contribute staff hours and in-kind funds to implement the proposed project including contracting with registered professional foresters and conducting the environmental resource surveys and flagging. In addition, the District will contribute the indirect costs associated with the grant implementation including; project management, CAL FIRE reporting, fuels management contractor coordination, and grant accounting requirements.

2. Describe plans for external communications during the life of the project to keep the effected community informed about the goals, objectives and progress of the project. Activities such as planned press releases, project signage, community meetings, and field tours are encouraged.

The District maintains an active website and a presence on Facebook and Nextdoor which will feature the award of the CAL FIRE grant, highlight the goals and objectives, and feature regular updates. The District will publish articles and updates on the progress and successes of the fuels reduction work. Project information will also be published in the Waterfront newsletter, a bi-monthly customer billing insert and email. The District serves the community of Pollock Pines and will highlight the proposed project fuels reduction work and the protection of the water supply. The District will announce and update the proposed project to local organizations and agencies that it regularly coordinates with, such as local fire safe councils, Eldorado National Forest, El Dorado and Georgetown Divide Resource Conservation Districts, and the South Fork Cohesive Strategy collaborative group. The implementation of hazardous fuels treatments provides an opportunity to inform and educate District customers and community partners regarding the direct link between hazardous fuels management, public health, protection of life and property, and protection of District critical water supply infrastructure.

3. Describe any plans to maintain the project after the grant period has ended.

The District anticipates ongoing treatment of sprouting brush and woody vegetation to maintain the shaded fuel break until such time all wood-constructed flumes are replaced with fire hardened structures. Ongoing vegetation management will be coordinated with the U.S. Forest Service in accordance with FERC License Integrated Pest Management Plan and an existing special use permit. Maintenance treatments activities include utilizing hand tools, chipping, burn piles, and herbicide applications.

4. Does the proposed project work with other organizations or agencies to address fire hazard reduction at the landscape level?

The proposed project would connect to larger, coordinated fuels management efforts and would enhance these ongoing landscape level efforts of regional partners by reducing hazardous fuels to the east of the Fire Adapted 50 Project located on Hazel Valley Road and the north of recently established shaded fuel break conducted by SPI located off of USFS 10N40.

Section IV

Project Implementation

1. Discuss the anticipated timeline for the project. Make sure to take seasonal restrictions into account.

The District is coordinating with the U.S. Forest Service to complete the National Environmental Policy Act (NEPA) categorical exclusion for the portion of the proposed project located on federal lands. The Proposed Action for the categorical exclusion is currently out for public scoping and can be viewed on the Schedule of Proposed Actions (SOPA) webpage: <https://www.fs.usda.gov/project/?project=63420>. The District anticipates the categorical exclusion to be completed in May 2023, and to start fuels reduction activities in the fall/winter of 2023 or the spring of 2024 depending on the timing of the grant award contract execution and ground conditions. The project activities would progress seasonally and be coordinated with fire conditions and or wildlife limiting operating restriction periods. The District anticipates to complete the fuels reduction work by December 2025.

2. Verify the expected timeframes to complete the project will fall under the required completion dates depending on the source of the funds awarded.

If approved, the proposed project will be funded through a Cal Fire Wildfire Prevention grant and District in-kind funds. The District anticipates the proposed project will be completed over a two year period and will commence immediately following the grant award and contract execution.

3. Using bullets, list the milestones that will be used to measure the progress of the project.

1. Treatment boundaries and natural resource flagged by registered professional forester
2. Public outreach efforts; webpage, newsletters, public meeting, and social media
3. Site visits to verify fuels treatments
4. Number of acres treated by mastication, hand treatments, chipping, and burn piles
5. Treated acres verified and accepted by Cal Fire grants administrator

4. Using bullets, list the measurable outcomes (i.e. project deliverables) that will be used to measure the project's success.

1. Protect critical water conveyance facilities from wildfire by reducing hazardous fuel loads adjacent to four wood-constructed flumes on the El Dorado Canal.
2. Extend landscape level fuel break treatments conducted by regional partners located to the west and south of the proposed project area.
3. Establish defensible space around critical water supply infrastructure and increase ground and air attach success.

5. If applicable, how will the requirements of the California Environmental Quality Act (CEQA) be met?

Acting as the Lead Agency, the District has completed the California Environmental Quality Act review for the proposed project and filed a Notice of Exemption with the El Dorado County Recorder-Clerk. Additionally, the District is coordinating with the U.S. Forest Service to complete the NEPA categorical exclusion for the portion of the proposed project located on federal lands. The Proposed Action for the categorical exclusion is currently out for public scoping and can be viewed on the Schedule of Proposed Actions (SOPA) webpage: <https://www.fs.usda.gov/project/?project=63420>. The District anticipates the categorical exclusion to be completed in May 2023.

6. List any existing forest or land management plans; Conservation Easements; Covenant, Conditions & Restrictions (CC&R's); matters related to zoning; use restrictions, or other factors that can or will limit the wildfire prevention proposed activity?

There are no vegetation management or zoning restrictions on the 55 acres of District lands. The District will utilize the FERC 184 license agreement, an existing U.S. Forest Service special use permit, and additional coordination with the U.S. Forest Service for vegetation management activities on the 170 acres of federal lands.

Section V

Administration

1. Describe any previous experience the project proponent has with similar projects. Include a list of recent past projects the proponent has successfully completed if applicable. Project applicant or manager having no previous experience with similar projects should discuss any past experiences that may help show a capacity to successfully complete the project being proposed. This may include partnering with a more experienced organization that can provide project support.

The District has a reliable record of receiving and successfully administering a variety of grants from federal, state, and private funding sources. Recently, the District effectively completed three separate 2017-2018 CALFIRE Fire Prevention grants utilizing all available grant funds. The District's team will be responsible for soliciting and managing forestry management contracts, tracking project expenses, corresponding with CALFIRE grant administrators, and submitting grant reports to CALFIRE staff. The District also has extensive experience overseeing vegetation management contracts through an on-call service system.

1. CALFIRE 2017-2018 Fire Prevention Grant- Grant # 5GG17110 (118 Acres), Grant # 5GG17111 (46 Acres), Grant # 5GG17110 (365 Acres).
2. CALFIRE 2016 State Responsibility Area Fire Prevention Fund and Tree Mortality Grant (#5GS16102) for the purchase of a chipper for ongoing vegetation management and for the removal of hazard trees from the Sly Park Recreation Area.
3. Sierra Nevada Conservancy Caples Creek Ecological Restoration Project and Hazel Meadow Restoration Project Grants.
4. Ongoing implementation of the Integrated Pest Management Program for Hydroelectric Project No.184.
5. Ongoing vegetation management at various District facilities, properties, and right-of-ways. This work includes felling of hazard trees and removal of hazardous accumulations of vegetation that threaten critical infrastructure.

2. Identify who will be responsible for tracking project expenses and maintaining project records in a manner that allows for a full audit trail of any awarded grant funds.

As part of the District's grant management team, Mr. Doug Venable- Environmental Review Analyst, will serve as project manager and administrator for the grant. Mr. Venable previously served as project manager for three 2017-2018 Fire Protection grants. All project contracts, invoice payments, and received grant funds will be routed through the District's finance department. Mr. Brian Deason, Environmental Resources Supervisor will support Mr. Venable with grant management and oversight. The District's grant management team has successfully implemented numerous grants allocating 100 percent of available grant funds.

Section VI

Budget

A detailed project budget should be provided in the online budget included in this solicitation. The space provided here is to allow for a narrative description to further explain the proposed budget.

1. Explain how the grant funds, if awarded, will be spent to support the goals and objectives of the project. If equipment grant funds are requested, explain how the equipment will be utilized and maintained beyond the life of the grant.

The District will spend all of the awarded grant funds directly on hazardous fuels reduction activities to achieve the stated objectives and goals of the proposed project. The District will contribute staff hours and in-kind funds to support the implementation of the fuels reduction efforts including completing the environmental resource surveys, contracting with registered professional foresters, and other supporting tasks.

2. Are the costs for each proposed activity reasonable for the geographic area where they are to be performed? Identify any costs that are higher than usual and explain any special circumstances within the project that makes these increased costs necessary to achieve the goals and objectives of the project.

The proposed costs associated with the fuels reduction activities are based on the District's recent implementation of mastication and hand treatment vegetation management projects. The District has budgeted for the cost based on recent vegetation management contracts and has estimated \$3,500 per acre due to nature of the landscape to be treated.

3. Is the total project cost appropriate for the size, scope, and anticipated benefit of the project?

The District believes the total cost of the proposed project is appropriate considering the benefit of protecting critical water supply infrastructure from catastrophic wildfire and the associated repair or replacement costs of these facilities.

4. Using bullets please list each object category amount that you are requesting and the detail of how that would support meeting the grant objectives.

1. \$787,500 for hazardous fuels treatments.
2. All requested grant funds would be spent on hazardous fuels reduction work which would support the proposed project's goal to create a shaded fuel break around critical infrastructure and support the stated objectives to protect critical water supply infrastructure, connect to adjacent fuel breaks, and establish defensible space around critical infrastructure.

5. Does your project include the purchase of capital equipment (more than \$5,000 per item)?

No

Section VII

California Climate Investments

The space provided here is to allow for a narrative description to further explain how the project/activity will reduce Greenhouse Gas emissions.

1. How will the project/activity reduce Greenhouse Gas emissions?

The proposed project would reduce greenhouse gas emissions by reducing the potential of a catastrophic wildfire by creating a shaded fuel break and reducing hazardous fuels to eliminate the vertical and horizontal continuity, the rate of wildfire spread, duration and intensity, fuel ignitability, and the ignition of tree crowns. The proposed project would connect this shaded fuel break to existing fuel breaks to the west and south.

Budget Report

Passthrough Agency: California Department of Forestry and Fire Protection (CAL FIRE)
Program: FY 2022-2023 Wildfire Prevention Grants
Stage: Pre-Award

Report Date: 08/07/2023
Requested By: Doug Venable
dvenable@eid.org

Budget Items

Category	Title	Description	Units	Unit Cost	Extended Cost	Direct Cost	Indirect Cost	GL Account	Cost Share
Salaries & Wages									
	Project Manager	Hours	400	\$58.00	\$23,200.00	\$0.00	\$0.00		\$23,200.00
	Environmental Resources	Hours	80	\$71.00	\$5,680.00	\$0.00	\$0.00		\$5,680.00
	Permit Technician	Hours	50	\$39.00	\$1,950.00	\$0.00	\$0.00		\$1,950.00
	Property Maintenance	Hours	40	\$37.00	\$1,480.00	\$0.00	\$0.00		\$1,480.00
Salaries & Wages Total			570	\$205.00	\$32,310.00	\$0.00	\$0.00		\$32,310.00
Employee Benefits									
	Project Manager	Hours	400	\$35.00	\$14,000.00	\$0.00	\$0.00		\$14,000.00
	Environmental Resources	Hours	80	\$43.00	\$3,440.00	\$0.00	\$0.00		\$3,440.00
	Permit Technician	Hours	50	\$23.00	\$1,150.00	\$0.00	\$0.00		\$1,150.00
	Property Maintenance	Hours	40	\$22.00	\$880.00	\$0.00	\$0.00		\$880.00
Employee Benefits Total			570	\$123.00	\$19,470.00	\$0.00	\$0.00		\$19,470.00
Contractual									
	Hazardous Fuels Treatments Contractor-Hand Treatments, chipping,	Acres	200	\$3,500.00	\$700,000.00	\$700,000.00	\$0.00		\$0.00
	Hazardous Fuels Treatments Contractor-	Acres	25	\$3,500.00	\$87,500.00	\$87,500.00	\$0.00		\$0.00
	Registered Professional	Contract	1	\$45,000.00	\$45,000.00	\$0.00	\$0.00		\$45,000.00
	CEQA & NEPA Support	Contract	1	\$75,000.00	\$75,000.00	\$0.00	\$0.00		\$35,000.00
Contractual Total			227	\$127,000.00	\$907,500.00	\$787,500.00	\$0.00		\$80,000.00
Travel & Per Diem									
	Use Titles to briefly describe each item. Cost Share from the grantee and from a partner can be tracked on separate lines. Note that your indirect cost rate setting (which must be between 0 and 10%) will	In each rows Description, enter the unit of measurement and choose from only the following labels: Hours, Days, Each, Report, Contract, Miles, Daily, Annual	0	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Travel & Per Diem Total			0	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Supplies									
	Use Titles to briefly describe each item. Cost Share from the grantee and from a partner can be tracked on separate lines. Note that your indirect cost rate setting (which must be between 0 and 10%) will	In each rows Description, enter the unit of measurement and choose from only the following labels: Hours, Days, Each, Report, Contract, Miles, Daily, Annual	0	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Supplies Total			0	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Equipment									
	NOTE: Indirect cost rates do not apply to Equipment. Use Titles to briefly describe each item. Cost Share from the grantee and from a partner can be tracked on	In each rows Description, enter the unit of measurement and choose from only the following labels: Hours, Days, Each,	0	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Equipment Total			0	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Other Costs									

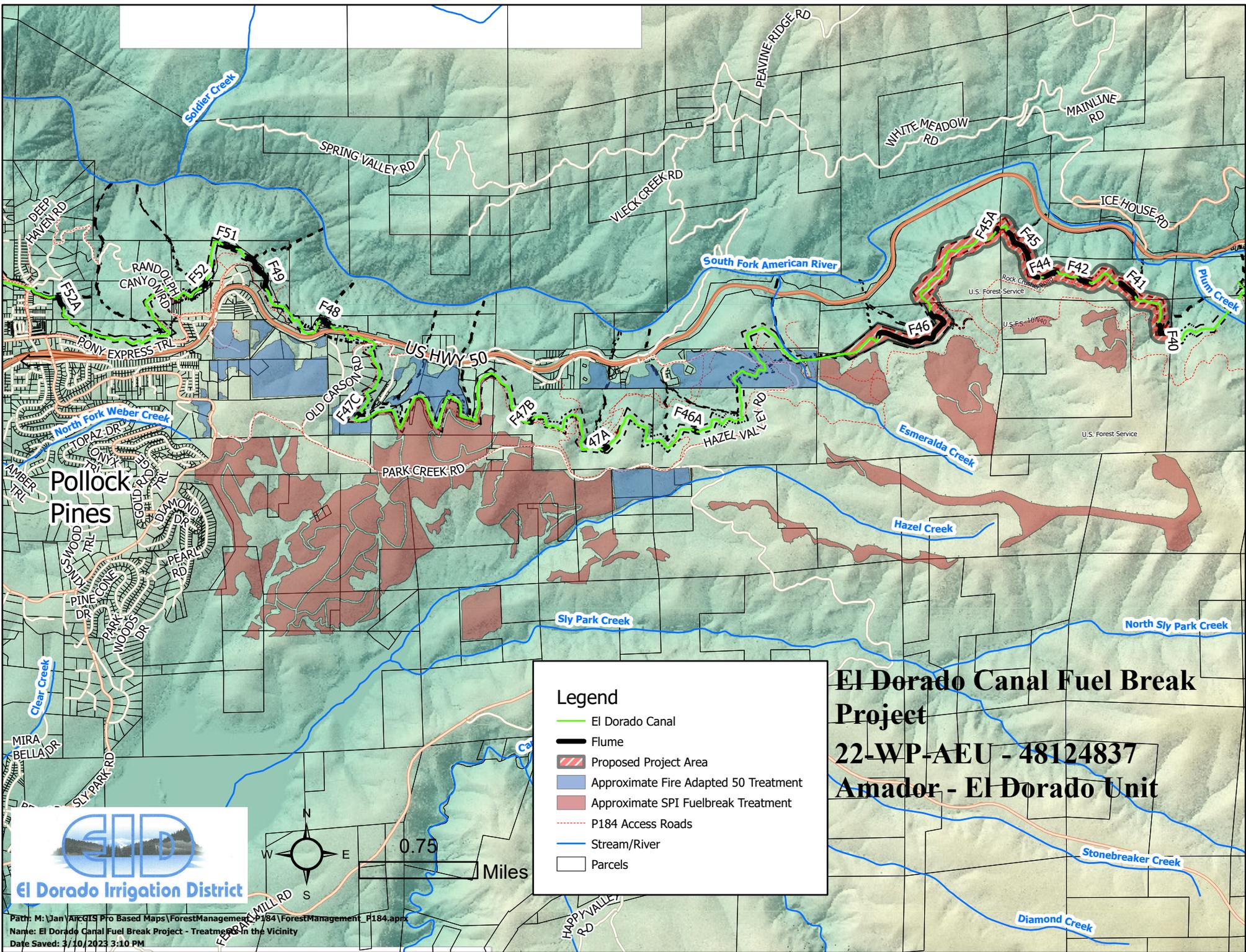
Budget Report

Passthrough Agency: California Department of Forestry and Fire Protection (CAL FIRE)
Program: FY 2022-2023 Wildfire Prevention Grants
Stage: Pre-Award

Report Date: 08/07/2023
Requested By: Doug Venable
dvenable@eid.org

Budget Items

Category	Title	Description	Units	Unit Cost	Extended Cost	Direct Cost	Indirect Cost	GL Account	Cost Share
	Use Titles to briefly describe each item. Cost Share from the grantee and from a partner can be tracked on separate lines. Note that your indirect cost rate setting (which must be between 0 and 10%) will	In each row Description, enter the unit of measurement and choose from only the following labels: Hours, Days, Each, Report, Contract, Mile, Daily, Area	0	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Other Costs Total			0	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Indirect Cost									
	To be used by CAL FIRE	To be used by CAL	0	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Indirect Cost Total			0	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Other									
Category	Title	Description	Units	Unit Cost	Extended Cost	Direct Cost	Indirect Cost	GL Account	Cost Share
Other									
Other Total			0	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Grant Total			1367	\$127,328.00	\$959,280.00	\$787,500.00	\$0.00		\$131,780.00
							\$787,500.00	Total with IDC	

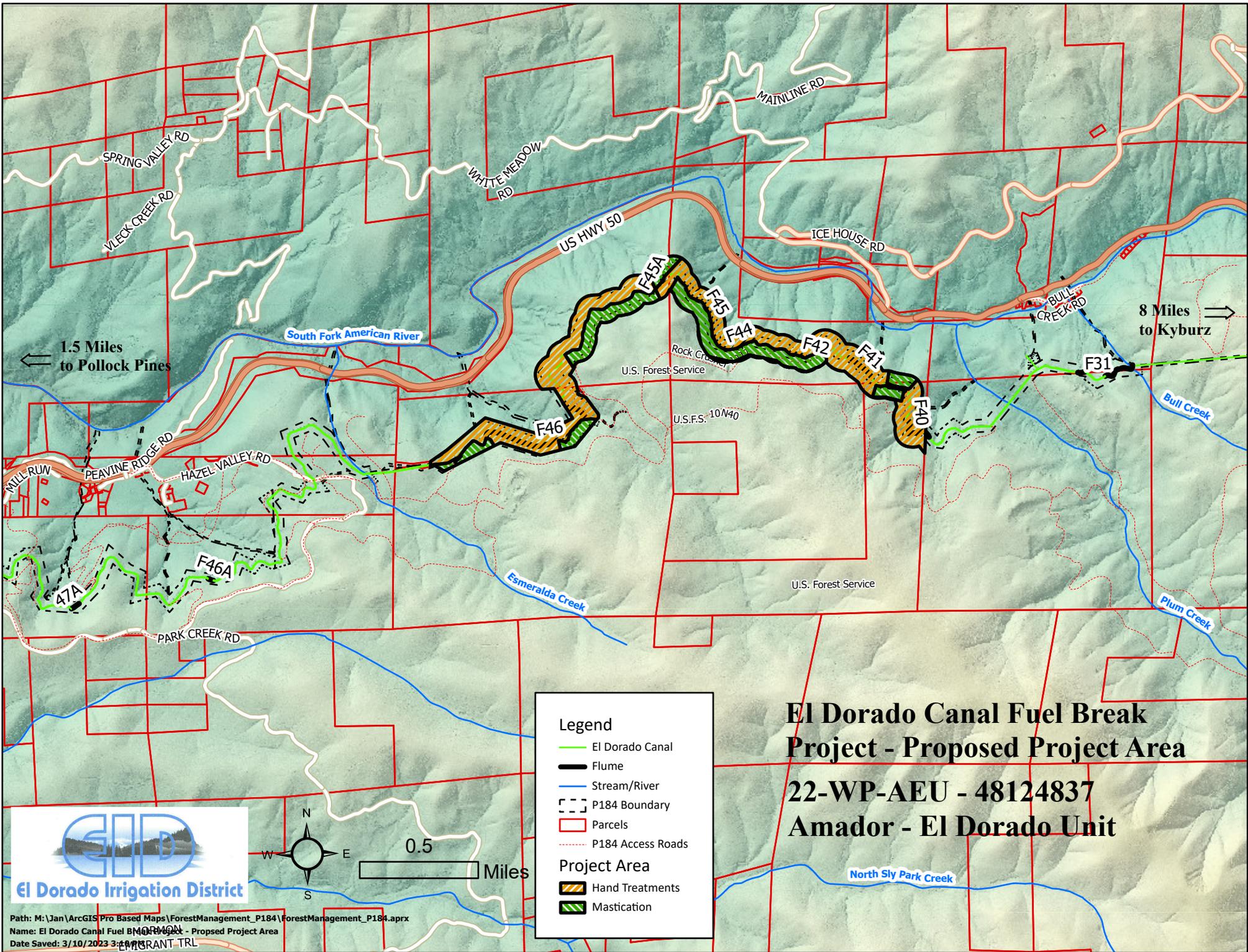


Legend

- El Dorado Canal
- Flume
- Proposed Project Area
- Approximate Fire Adapted 50 Treatment
- Approximate SPI Fuelbreak Treatment
- P184 Access Roads
- Stream/River
- Parcels

El Dorado Canal Fuel Break Project
22-WP-AEU - 48124837
Amador - El Dorado Unit





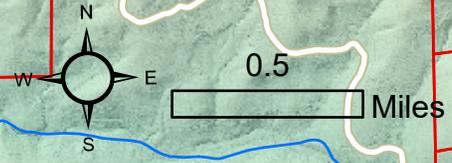
**El Dorado Canal Fuel Break
Project - Proposed Project Area**
22-WP-AEU - 48124837
Amador - El Dorado Unit

Legend

- El Dorado Canal
- Flume
- Stream/River
- P184 Boundary
- Parcels
- P184 Access Roads

Project Area

- Hand Treatments
- Mastication



EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider awarding a contract to B&M Builders, Inc. in the not-to-exceed amount of \$910,900 for concrete restoration work for a one-year period and authorize the General Manager to extend the contract for two additional, single-year periods, not to exceed \$1,000,000 per year, if in the District's best interests.

PREVIOUS BOARD ACTION

October 13, 2020 – Board awarded a one-year contract to B&M Builders, Inc. in the not-to-exceed amount of \$311,100 for concrete restoration; authorized the General Manager to extend the contract for two additional, single-year periods, not to exceed \$400,000 per year; and approved additional funding of \$711,100 for Water Service Line Replacement Project, Project No. 19036.

November 14, 2022 – Board adopted the 2023–2027 Capital Improvement Plan (CIP), subject to available funding.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 0010 District Mission Statement
BP 3060 Contracts and Procurement
AR 3061.04 Procurement and Contract Authority
BP 5010 Water Supply Management

SUMMARY OF ISSUE

Repairs and replacement of District infrastructure require concrete restoration. Staff issued the most recent Request for Bid (RFB) for these ongoing services and obtained two bids for the upcoming performance period. Based upon review of the bids, staff recommends award to the lowest, responsive, and responsible bidder B&M Builders Inc. Staff also requests that the Board authorize the General Manager to extend the contract for two additional, single-year periods if the General Manager determines that extension of the contract is in the District's best interests.

BACKGROUND/DISCUSSION

Various concrete restoration services are necessary throughout the District's service area annually as a result of water and wastewater repairs and replacements. Depending on the nature of the work, these services are charged to either the associated capital improvement project for capitalized expenditures or the associated division's annual operations budget if classified as a repair. The volume of concrete restoration continues to grow as the Service Line Replacement (SLR) Program expands. For example, staff is currently moving into Serrano Village E, where a high number of utility conflicts add undue stress to the polyethylene service lines, resulting in a high-priority focus area in the year ahead. This work includes concrete restoration related to sidewalks, curb and gutter, standard driveways, and custom-finished driveways. While staff always work to minimize private property damage whenever possible (concrete, asphalt, landscaping, etc.), replacement of subsurface infrastructure inevitably requires some property restoration needs for our customers.

Prior bidding for concrete restoration contracts showed that there are often minimal bid responses for this type of work. The nature of concrete restoration presents challenges for contractors. One small concrete restoration job may produce relatively little revenue for a contractor, considering the labor and equipment required to do each job. Additionally, the leak repairs can be spread out across large geographic areas, requiring multiple mobilizations to complete the work, which adds to the cost of each restoration. Mobilizing staff and equipment quickly for a small job can also be costly. To address the challenge of limited bids received by the District, staff directly solicited several local companies, including Doug Veerkamp General Engineering Inc., Joe Vicini Inc., and B&M Builders Inc., regarding this contracting opportunity.

Staff advertised the bid documents on July 28, 2023, and September 8, 2023. The District received two bids summarized below based upon the anticipated scope of services and quantities specified in the RFB.

Table 1 – Summary of Bids

Contractor	Total Bid
B&M Builders, Inc.	\$ 910,900
A-1 Advanced Asphalt, LLC.	\$ 2,560,648

The bid from B&M Builders, Inc. is the lowest responsible and responsive bid. Therefore, staff recommends award of the construction contract to B&M Builders, Inc. Staff has provided a unit price comparison with the 2020 contract below. There is a minor cost increase in both the sidewalk restoration and standard driveway finish. The District also increased the estimated quantities as part of the bid this year in anticipation of increased service line replacement over the coming years in areas that have a higher volume of sidewalk and standard curb and gutter that will need to be replaced, which represents the majority of the difference in anticipated annual costs over the prior contract.

Table 2 – Bid Comparison

Description	Unit	B&M Price 2020	B&M Price 2023
Bonds and Insurance	Lump Sum	\$24,000.00	\$22,600.00
Sidewalk Restoration	Square Foot	\$26.00	\$28.00
Standard or Rolled Curb and Gutter Restoration	Square Foot	\$35.00	\$35.00
Standard Finish Driveway Restoration	Square Foot	\$32.00	\$38.00
Custom Finished Driveway Restoration	Square Foot	\$36.00	\$32.00

FUNDING

Based on prior years, approximately 80% of the annual concrete restoration costs are estimated to be associated with the SLR program. Staff is not requesting additional funding at this time for restoration work associated with the SLR program. The Board previously authorized funding for anticipated 2023 concrete restoration in the amount of \$286,586 for CIP 23002.01 - Water Service Line Replacement and \$40,000 for CIP 23036.01 – Recycled Water Service Line Replacement. The remaining balance for this contract will be paid from the Drinking Water or Wastewater Division annual operations budgets, including these anticipated costs. Each individual concrete task invoice will be tracked during the year and charged accordingly (either to the SLR CIP or annual operations budget).

BOARD OPTIONS

Option 1: Award a contract to B&M Builders, Inc. in the not-to-exceed amount of \$910,900 for concrete restoration work for a one-year period and authorize the General Manager to extend the contract for two additional, single-year periods, not to exceed \$1,000,000 per year, if in the District's best interests.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

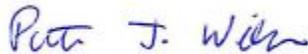
Option 1

ATTACHMENTS

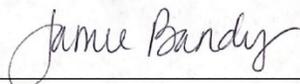
Attachment A: B&M Builders, Inc. Bid Summary



Noel Russell
Water Construction Supervisor



Patrick Wilson
Drinking Water Operations Manager



Jamie Bandy
Finance Director



Dan Corcoran
Operations Director



Brian Poulsen
General Counsel



Jim Abercrombie
General Manager

SECTION 00400

Attachment A

BID FORM

DUE SEPTEMBER 8, 2023 AT 3:00 P.M.

TO THE HONORABLE BOARD OF DIRECTORS OF THE EL DORADO IRRIGATION DISTRICT

THIS BID IS SUBMITTED BY:

B & M Builders, Inc.
(Firm/Company Name)

Re: CONCRETE RESTORATION RFB P23- 002-AM

- 1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the El Dorado Irrigation District ("District") in the form included in the Contract Documents, SECTION 00520 (Agreement), to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Sum and within the Contract Time indicated in this Bid and in accordance with all other terms and conditions of the Contract Documents.
- 2. Bidder accepts all of the terms and conditions of the Contract Documents, SECTION 00100 (Advertisement for Bids), and SECTION 00200 (Instructions to Bidders), including, without limitation, those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for 90 calendar Days after the day of Bid opening.
- 3. In submitting this Bid, Bidder represents:
 - (a) Bidder has examined all of the Contract Documents and the following Addenda (receipt of all of which is hereby acknowledged).

Addendum No.	Addendum Date	Signature of Bidder
NA		

- (b) Bidder has received and examined the District scope of work as defined in contract documents.
- 4. Based on the foregoing, Bidder proposes and agrees to fully perform the Work within the time stated and in strict accordance with the Contract Documents for the following sums of money listed in the following List of Bid Prices.

SCHEDULE OF BID PRICES

All Bid items, including lump sums, unit prices and alternates, must be filled in completely. The District reserves the right to award all or part of this RFB. Each item shall be quoted separately and shall be awarded only if the District elects in writing. If pricing is quoted as a package and individual items cannot be separated bidder must state clearly in writing.

Note: In the event there is Traffic Control requirements for specific jobs the cost is the responsibility of the contractor.

Note: 4" and 6" sidewalks and 6" curb and gutter to match existing shall be acceptable to the District.

Note: The District may accept and evaluate as appropriate an alternate rate schedule proposed by the contractor. If selected, the contractor's rate schedule shall be incorporated into the contract agreement.

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL
1.	Bonds and Insurance	1	Lump Sum	\$ 22,600	\$ 22,600
2.	Sidewalk Restoration	8100	Square Foot	\$ 28	\$ 226,800
3.	Standard or Rolled Curb and Gutter Restoration	8100	Square Foot	\$ 35	\$ 283,500
4.	Standard Finish Driveway Restoration	5400	Square Foot	\$ 38	\$ 205,200
5.	Custom Finish Driveway Restoration	5400	Square Foot	\$ 32	\$ 172,800
TOTAL BID PRICE					\$ 910,900

Total Bid Price: nine hundred ten thousand nine hundred
dollars + 00/100
 (Words)

5. The undersigned acknowledges that District reserves the right to accept Alternate(s) within 10 calendar Days after the District signs the Agreement, or other period stated. Following any such acceptance, the undersigned will accept and execute any change order confirming the acceptance. The amount of any change order shall be solely the amount identified above for the Alternate(s) accepted, without any additional overhead, profit, markup or other adjustment. Similarly, the exact amounts payable with respect any Unit Price Items will be confirmed by change order, and the amount of any change order shall

be solely the amount identified above for the applicable Unit Prices times the final quantities, without any additional overhead, profit, markup or other adjustment. Finally, the exact amount payable with respect to any allowance item will be determined as otherwise provided in the Contract Documents.

6. Selection of Apparent Low Bidder

The undersigned acknowledges that the Apparent Low Bidder will be the Bidder submitting the lowest combination of Bid Items **1 through 5** based on the assumptions (if any) set forth in the Schedule of Bid Prices.

7. The undersigned Bidder understands that District reserves the right to reject this Bid.

8. If written notice of the acceptance of this Bid, hereinafter referred to as Notice of Award, is mailed or delivered to the undersigned Bidder within the time described in paragraph 2 of this SECTION 00400 (Bid form) or at any other time thereafter before it is withdrawn, the undersigned Bidder will execute and deliver the documents required by SECTION 00200 (Instructions to Bidders) within the times specified therein. These documents include, but are not limited to, SECTION 00520 (Agreement), SECTION 00610 (Construction Performance Bond), and SECTION 00620 (Construction Labor and Material Payment Bond).

9. Notice of Award or request for additional information may be addressed to the undersigned Bidder at the address set forth below.

10. The undersigned Bidder herewith encloses cash, a cashier's check, or certified check of or on a responsible bank in the United States, or a corporate surety bond furnished by a surety authorized to do a surety business in the State of California, in form specified in SECTION 00200 (Instructions to Bidders), in the amount of ten percent (10%) of the Total Bid Price set forth above and made payable to "El Dorado Irrigation District".

11. The undersigned Bidder agrees to commence Work under the Contract Documents on the date established in SECTION 00700 (General Conditions) and to complete all work within the time specified in SECTION 00520 (Agreement). The undersigned Bidder acknowledges that District has reserved the right to delay or modify the commencement date. The undersigned Bidder further acknowledges District has reserved the right to perform independent work at the Site, the extent of such work may not be determined until after the opening of the Bids, and that the undersigned Bidder will be required to cooperate with such other work in accordance with the requirements of the Contract Documents.

12. The undersigned Bidder agrees that, in accordance with SECTION 00700 (General Conditions), liquidated damages for failure to complete all Work in the Contract within the time specified in SECTION 00520 (Agreement) shall be as set forth in SECTION 00520 (Agreement).

13. The names of all persons interested in the foregoing Bid as principals are:

LIST BY NAME: Jonathan Borow, Patrick Mullen, Austin O'Connell

(IMPORTANT NOTICE: If Bidder or other interested person is a corporation, give the legal name of corporation, state where incorporated, and names of president and secretary thereof; if a partnership, give name of the firm and names of all individual co-partners

composing the firm; if Bidder or other interested person is an individual, give first and last names in full).

NAME OF BIDDER: B & M Builders, Inc.

Licensed in accordance with an act for the registration of Contractors, and with C-8 Concrete Contractor's License number: 801848

Expiration: 7.31.25

California
Where incorporated, if applicable

Jonathan Borown
Patrick Mullen
Austin O'Connell
Principals

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.


Signature of Bidder

NOTE: If Bidder is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

Business Address: 11320 Sunrise Park Dr. Ste C
Rancho Cordova, CA 95742

Officers authorized to sign contracts: Jonathan Borown
Patrick Mullen
Austin O'Connell

Telephone Number(s): (916) 638-8026

Fax Number(s): (916) 852-6944

E-Mail address: estimating@bm-builders.com

CA Public Works Contractor (PWC) DIR No.: 1000003277

Federal ID Number: 51-0539817

DATE OF BID:

END OF SECTION

SECTION 00481

NON-COLLUSION DECLARATION
PUBLIC CONTRACT CODE §7106

NON-COLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH
BID

The undersigned declares:

I am the President of B&M Builders, Inc., the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on 9.8.23 [date], at Rancho Cordova [city], California [state].

B&M Builders, Inc.

(Name of Bidder)



(Signature)

Patrick Mullen, President

(Title)

(If Bidder is a partnership or a joint venture, this declaration must be signed by every member of the partnership or venture. Print as many forms as needed and submit.)

(If Bidder [including any partner or venturer of a partnership or joint venture] is a corporation, this declaration must be signed by the Chairman, President, or Vice President and by the Secretary, Assistant Secretary, Chief Financial Officer, or Assistant Treasurer. Print as many forms as needed and submit.)

END OF SECTION

**SECTION 00482
BIDDER CERTIFICATIONS
TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID**

The undersigned Bidder certifies to the El Dorado Irrigation District ("District"), as set forth in sections in this document.

1. PREVIOUS DISQUALIFICATIONS

By my signature hereunder, I hereby swear, under penalty of perjury, that the below indicated Bidder, any officer of such Bidder, or any employee of such Bidder who has a proprietary interest in such Bidder, has never been disqualified, removed or otherwise prevented from bidding on, or completing a Federal, State, or local government project because of a violation of law or a safety regulation except as indicated on the separate sheet attached hereto entitled "Previous Disqualifications." If such exceptions are attached, please explain the circumstances.

2. CERTIFICATION OF WORKER'S COMPENSATION INSURANCE

By my signature hereunder, as the Contractor, I certify that 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.

3. CERTIFICATION OF PREVAILING WAGE RATES AND RECORDS

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 1773 of the Labor Code, which requires the payment of prevailing wage on public projects. Also, that the Contractor and any subcontractors under the Contractor shall comply with Section 1776, regarding wage records, and with Section 1777.5, regarding the employment and training of apprentices, of the Labor Code. It is the Contractor's responsibility to ensure compliance by any and all subcontractors performing work under this Contract.

CONTINUED ON NEXT PAGE

4. CERTIFICATION OF ADEQUACY OF CONTRACT AMOUNT

By my signature hereunder, as the Contractor, pursuant to Labor Code Section 2810(a), I certify that, if awarded the Contract based on the undersigned's Bid, the Contract will include funds sufficient to allow the Contractor to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided. I understand that the District will be relying on this certification if it awards the Contract to the undersigned.

5. CERTIFICATION OF COMPLIANCE WITH TRUCK AND BUS REGULATION

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of the Truck and Bus Regulation (Title 13, California Code of Regulations, Section 2025), which regulates certain vehicles that operate in California. I certify that, as the Contractor, the vehicle fleet that would be used for performance of the work of this Contract is in compliance with the Truck and Bus Regulation. If requested by the District, I will provide information to demonstrate compliance with the Truck and Bus Regulation, such as certificates of compliance or relevant vehicle fleet information. I understand that it is the Contractor's responsibility to ensure compliance with the Truck and Bus Regulation by any and all subcontractors performing work under this Contract.

Bidder: B & M Builders, Inc.
 [Name of Bidder]

By: 
 [Signature]

Name: Patrick Mullen
 [Printed Name]

Its: President
 [Title]

Dated: 9.8.23

END OF SECTION

SECTION 00411

BOND ACCOMPANYING BID

KNOW ALL BY THESE PRESENTS:

That the undersigned B & M Builders, Inc. as Principal and the undersigned as Surety are held and firmly bound unto the EL DORADO IRRIGATION DISTRICT ("District"), as obligee, in the penal sum of Ten Percent of Total Amount Bid Dollars (\$ 10% of Total Amount Bid) lawful money of the United States of America, being at least ten percent (10%) of the aggregate amount of said Principal's "Total Bid Price" indicated in SECTION 00400 (Bid Form), for the payment of which, well and truly to be made, we bind ourselves, our successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal is submitting a Bid for:

CONCRETE RESTORATION
RFB P23-002-AM

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Bid submitted by the said Principal be accepted and the Contract be awarded to said Principal and said Principal shall within the required periods enter into the Contract so awarded and provide the required Construction Performance Bond, Construction Labor and Material Payment Bond, insurance certificates, and all other endorsements, forms, and documents required under SECTION 00200 (Instructions to Bidders), then this obligation shall be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument this 7th day of September 2023 .

(Corporate Seal)

By

B & M Builders, Inc

Patrick Mullen, President

Principal

Travelers Casualty and Surety Company of America

Surety

(Corporate Seal)

By

Ryan Tash,

Attorney in Fact

END OF SECTION

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Sacramento)

On 09/07/2023 before me, Traci E. Nakagaki, Notary Public
(insert name and title of the officer)

personally appeared Ryan Tash
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

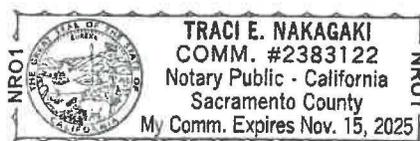
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature



(Seal)



ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Sacramento)

On 09/07/2023 before me, Traci E. Nakagaki, Notary Public
(insert name and title of the officer)

personally appeared Patrick Mullen,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

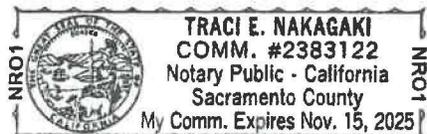
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature



(Seal)





Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

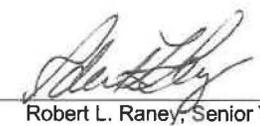
KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Ryan Tash** of **RANCHO CORDOVA**, California, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April**, 2021.



State of Connecticut

City of Hartford ss.

By: 
 Robert L. Raney, Senior Vice President

On this the **21st** day of **April**, 2021, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, 2026




 Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

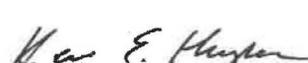
FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this **7th** day of **September**, 2023.




 Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider awarding a contract to Peterson Brustad, Inc. in the not-to-exceed amount of \$208,862 for design of the Bridlewood, Reservoir 4, and Reservoir 7A Tank Recoating projects and authorize additional funding of \$42,124 for capitalized labor, and \$25,100 for project contingency for a total funding request of \$276,086 for the Bridlewood, Reservoir 4, and Reservoir 7A Tank Recoating Projects, Project No. 23038, 23039, and 23040, respectively.

PREVIOUS BOARD ACTION

December 12, 2022 – Board adopted the 2023-2024 Operating Budget and 2023-2027 Financial Plan, which included funding for tank recoating projects.

February 13, 2023 – Board received an overview regarding the condition of District storage reservoirs and tanks.

October 10, 2023 – Board held a workshop for 2024-2028 Capital Improvement Plan (CIP), which included funding for these tank recoating projects.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 3060 Contracts and Procurement

BP 5000 Water Supply Management

SUMMARY OF ISSUE

The District operates and maintains 32 welded steel tanks in the drinking water, wastewater, and recycled water systems. The District's goal and industry standard for welded steel tanks is to complete a recoating every 15 years to minimize the need for structural repairs and maintain the 75 to 100-year life expectancy of these assets. Three tanks are programmed for rehabilitation over the next three years. Due to conditions observed during recent tank interior inspections, staff anticipates structural replacement of various tank components will also be needed in addition to recoating to maintain the safe and reliable operation of the tanks.

BACKGROUND/DISCUSSION

Tanks are critical to the reliable operation of water, recycled water, and wastewater systems and are sized to provide demand equalization, fire flow, and emergency storage volumes. Demand equalization storage volume stores water at tank sites throughout the system to smooth out peak demands and minimize the size of system transmission mains. Fire flow storage volume provides the worst-case fire flow requirements determined by the local fire jurisdiction. Emergency storage volume is intended for unplanned outages and is sized to provide system demands for at least one day, and often longer, depending on redundancy in the particular service area. Finally, some tanks located at treatment facilities also provide treatment process control, operational flexibility, and storage.

Over half of the District's storage facilities are welded steel tanks. The District's 32 welded steel storage tanks range in age from 13 to 63 years. Table 1 provides a summary of the tanks by utility.

Table 1 – Welded Steel Tanks by Utility

Drinking Water	24
Recycled Water	4
Wastewater	4
TOTAL	32

The interior of each of these steel storage tanks is generally inspected every five years. During each inspection of the drinking water and recycled water tanks, a diver conducts a review of the structure, identifying any deficiencies that may have arisen since the last inspection. Wastewater tanks are inspected when empty. Unfortunately, these inspections have identified areas of significant coating failure and, in some cases, delamination and/or failure of structural steel and steel roof components that have accumulated on the tank floor. Once the protective coatings on the interior and exterior surfaces have failed, the steel tanks are susceptible to an irreversible corrosion process. The only way to treat a protective coating that has failed is to remove the coating to bare metal and recoat fully. If the coating failure is left untreated, the steel structure will eventually be compromised, repair costs will escalate, and ultimately, the tank will require complete replacement.

The following tanks are scheduled for rehabilitation over the next three years and have been grouped into one project for economy of scale and to minimize staff time that would otherwise be needed to manage three individual projects.

Bridlewood Tank

The Bridlewood tank is a 4 million gallon (MG) recycled water storage tank in El Dorado Hills. This welded steel tank has been in service since 2003 and has not been recoated since installation. The tank receives water from both the Deer Creek and El Dorado Hills Wastewater Treatment Plants and is the District’s largest recycled water storage tank. The most recent tank inspection was completed in March 2021. At that time, the tank lining was noted to be in poor condition, with significant corrosion above the high water elevation and rusting cracks and blisters below the high water elevation. The underside of the roof was in poor condition overall, with rust developing on structural support members. The exterior coating was in fair condition, with widespread peeling on the roof, moderate chalking (powdery, faded finish), and heavy chalking on the side walls.

In February 2021, the District contracted with Carollo Engineers to perform an alternatives analysis that considered both tank rehabilitation and replacement alternatives for this tank. The analysis resulted in a near-term recommendation to recoat the interior and exterior of the tank over a two-year period to coincide with low recycled water demand in the winter months. This would avoid the need for temporary storage during the recoating process and avoid recycled water service impacts. The longer-term recommendation, although not proposed at this time, includes the eventual replacement of the tank before the next rehabilitation cycle with two smaller concrete tanks to reduce maintenance costs and improve reliability.

Reservoir 4 Tank

The Reservoir 4 tank is a 0.5 MG drinking water storage tank in Placerville. It is a welded steel tank that has been in service since 2000 and has not been recoated since installation. Significant corrosion above the high water elevation was observed during the last dive inspection in 2023. The tank regulates water conveyed in the El Dorado Main #1 transmission line for delivery in Placerville, including multiple connections to the City of Placerville.

Reservoir 7A Tank

The Reservoir 7A tank is a 3.9 MG drinking water storage tank in Pleasant Valley. It is a welded steel tank that has been in service since 2004 and has not been recoated since its installation. There is significant visible corrosion on the outside of the tank, which required District staff to add weld-on patches to the roof near the cupola vent to maintain sanitary requirements. The interior of the tank was last inspected in 2018; the next inspection is scheduled for later this year. The Reservoir 7 tanks are part of the Pleasant Oak Main and Diamond Springs Main transmission lines that provide transmission storage and a hydraulic grade break.

As part of the proposed design contract, each of the three tanks will be re-inspected to determine current conditions and subsequent scope of rehabilitation.

Design Scope of Work

The design scope of work under the proposed contract is summarized below.

- A basis of design report (BODR) will identify all project requirements and construction cost components. It will include confirmation of tank condition, structural analysis of each tank, structural alternatives analysis, recycled water operations and improvement plan, environmental and aesthetic considerations, confirmation of design criteria, updated schedule and cost estimates, and 30% drawings.
- Final design including 60%, 90%, and final plans and specification submittals
- Bidding support

Request for Proposals

Staff released a Request for Proposals (RFP) for design services for the Project in September 2023 and received one proposal shown in Table 2.

Table 2 – Summary of Proposals Received

Consultant	Proposed Cost
Peterson Brustad, Inc.	\$ 208,862

Staff evaluated the proposal based on criteria established in the RFP, including experience and expertise, project approach, past performance record, references, and cost. Peterson Brustad Inc.’s (PBI) proposal offers a strong engineering team with subject matter expertise in the design and rehabilitation of steel storage tanks and has recent relevant experience on projects completed for neighboring utilities such as the City of Folsom, Calaveras County Water District, and Sacramento Suburban Water District. PBI’s references for similar projects have been checked, and all provided positive reviews. PBI’s fee proposal offers competitive rates compared to other engineering firms providing services to the District.

Staff recommends a design contract award to PBI based on the proposal evaluation, strong references, and competitive rates.

Project Schedule

The anticipated project construction schedule is provided in Table 3.

Table 3 – Anticipated Project Schedule

Event	Estimated Dates
Basis of Design Report	November 2023 – January 2024
Final Design	January – April 2024
Construction Bidding	May 2024 – June 2024
Construction Contract Award	July 2024
Bridlewood Tank Phase I recoating	September 2024 – April 2025
Reservoir 4 and Reservoir 7A Tank recoating	April 2025 – September 2025
Bridlewood Phase II recoating	September 2025 – April 2026

FUNDING

Tank recoating projects have been included in the District’s operating budget in previous years as an operating expense. However, staff recently received guidance from our external auditors that these recoating projects can be capitalized and included in the CIP. As such, funding for these tanks is included in the 2024-2028 CIP under the Water Storage Tank Replacement and Rehabilitation Program and the Recycled Water Storage Tank Replacement and Rehabilitation Program.

Table 4 provides a breakdown of requested funding for the design and bidding phases of the project.

Table 4 – Funding Requirements

Design Contract – Peterson Brustad, Inc.	\$ 208,862
Capitalized Labor (Project Management)	\$ 42,124
10% Project Contingency	\$ 25,100
Total Funding Request	\$ 276,086

Staff will return to the Board when construction bids have been received to request additional funding and award of construction contracts.

BOARD OPTIONS

Option 1: Award a contract to Peterson Brustad, Inc. in the not-to-exceed amount of \$208,862 for design of the Bridlewood, Reservoir 4, and Reservoir 7A Tank Recoating Projects, and authorize additional funding of \$42,124 for capitalized labor and \$25,100 in project contingency for a total funding request of \$276,086 for the Bridlewood, Reservoir 4, and Reservoir 7A Tank Recoating Projects, Project No. 23028, 23039, and 23040, respectively.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: Peterson Brustad, Inc. proposal

Attachment B: 2024-2028 CIP summaries



Kailee Delongchamp
Associate Engineer



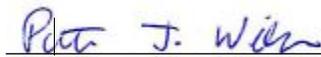
Tracey Eden Bishop
Senior Civil Engineer



Jon Money
Engineering Manager



Tracy Crane
Wastewater and Recycled Water Operations Manager



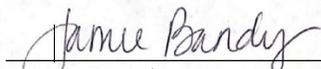
Patrick Wilson
Drinking Water Operations Manager



Dan Corcoran
Operations Director



Brian Mueller
Engineering Director



Jamie Bandy
Finance Director



Brian Poulsen
General Counsel



Jim Abercrombie
General Manager



October 5, 2023
(Revised October 13, 2023)

Ms. Tracey Eden-Bishop
Project Manager
El Dorado Irrigation District
Attn: ContractManagement@eid.org

Subject: Proposal for Bridlewood Tank, Reservoir 4 Tank, and Reservoir 7A Tank Recoating Projects
(Revised October 13, 2023)

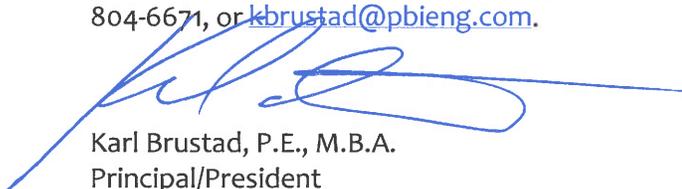
Dear Ms. Eden-Bishop,

We are pleased to submit this proposal for the Bridlewood Tank, Reservoir 4 Tank, and Reservoir 7A Tank Recoating Projects. **We are excited about the opportunity to continue working with the District on this very interesting and exciting project.**

We are confident that we have the qualifications, expertise, experience, dedication, and responsiveness to complete this project for the District. We have proposed a team of qualified engineers and specialty subconsultants to support this project. We are currently supporting the District on the Silver Lake Campground Well project and the El Dorado Main #2 (EDM2) Condition Assessment project. We have experience on similar condition assessment projects with other local clients. We are currently supporting a Water Storage Tank and Cathodic Protection System Inspection project with the City of Folsom and four tank condition assessment projects with Sacramento Suburban Water District (SSWD). The City of Folsom project and two of the tank projects with SSWD include cathodic protection and a structural analysis. For all three of these projects, we are being assisted by CSI Services for the cathodic protection.

Locally based engineering firm. Our office is located on Blue Ravine Road, in Folsom, 30 minutes from the District's office. This local presence not only provides the District with added local knowledge, it also provides a quicker response time. We plan to do what is necessary to develop and sustain a long-term relationship with the District.

We have enjoyed working with the District in the past and look forward to assisting you with this project. If you have any questions or desire any additional information, please do not hesitate to contact me at (916) 804-6671, or kbrustad@pbieng.com.



Karl Brustad, P.E., M.B.A.
Principal/President
Peterson Brustad Inc.

SECTION 1 – SCOPE OF WORK

We understand that the El Dorado Irrigation District (District) is looking for a qualified Design Engineer for the Bridlewood Tank, Reservoir 4 Tank, and Reservoir 7A Tank Re-Coating Project (Project). PBI understands that the project consists of preparing a Basis of Design Report (BODR) and final design plans and specifications for the re-coating of the three tanks, including construction cost estimates and schedules for each tank.

The Bridlewood Tank is a 4 Million Gallon (MG) recycled water (RW) storage tank. It is a welded steel tank that has been in service since 2003 and has not been re-coated since its installation.

The Reservoir 4 Tank is a 0.5 MG potable water storage tank. It is a welded steel tank that has been in service since 2000 and has not been re-coated since its installation.

The Reservoir 7A Tank is a 3.9 MG potable water storage tank. It is a welded steel tank that has been in service since 2004. The tank has not been re-coated since its installation.

Our proposed scope of work, which was developed based on our experience with similar projects, review of the request for proposal (RFP), and review of available information is detailed as follows:

Task 1. Project Management - Karl Brustad, Project Manager, will provide overall project management activities to keep the project on schedule and within budget and report progress and milestones at regular intervals to District staff. Karl will be supported by Hannah Dunrud, the deputy project manager, will manage PBI staff and sub-consultants involved in the project, review and monitor the project budget and schedule, and perform the activities required to accomplish day to day management of the project.

Task 1.1 Prepare and Update Project Schedule – PBI will create an initial project schedule in Microsoft Project. The project schedule will identify the critical path activities and milestones throughout the design and bidding phases. We will continually monitor the schedule to keep the project on track, making any necessary adjustments to the schedule that may occur. **PBI will comply with the schedule provided in the RFP. With NTP the week of November 6th, final design will be completed week of April 29, 2024.**

Task 1.2 Project Meetings – PBI will attend a Kickoff meeting with District staff to introduce the project team, a BODR meeting to review the draft BODR, and two Design Submittal meetings (at 60% and 90%) to review the design plans and specifications. In addition, we will organize and attend monthly meetings with District staff and the project team to discuss project status, solicit District input, and discuss project alternatives and design criteria development.

Task 1.3 Monthly Invoices and Progress Reports – PBI will submit monthly invoices with progress reports which will include progress-to-date, percent budget expended, schedule updates, District action items, team action items, status of deliverables, any problems encountered with suggested solutions, and anticipated work for the next month.

Deliverables: Project schedule, meeting agendas and minutes (transmitted electronically), monthly invoices and monthly progress reports

Assumptions: Up to four (4) in person meetings (Kickoff meeting, Draft BODR meeting, 60% Design Submittal meeting, and 90% Design Submittal workshop) at District office and monthly progress meetings via MS Teams. PBI will bring full size prints of the plans to the 60% and 90% Design Submittal meetings.

Task 2. Basis of Design Report – PBI will prepare a 30% design level BODR to identify all project requirement and construction cost components

Task 2.1 Structural Analysis of Tanks Technical Memorandum - PBI's team will perform a structural analysis of the tanks to identify any structural components that need to be replaced and/or rehabilitated during the project. This analysis will include but not be limited to: **Updated Tank Inspection Reports for each individual**

tank (CSI) for a total of three tanks, Review of tank dive videos, Tank Float to review the tank rafters, and any other study we deem helpful in identifying structural components that may need to be replaced. A gravity analysis will be performed on the roof system of each tank based on AWWA D100 and ASCE 7 including roof supports, rafters, and knuckle supports.

Assumptions: *The analysis assumes that the existing foundations are as shown on the as-built documents and geotechnical criteria is based on the pertinent building code. The current scope assumes that lateral (seismic) analysis, geotechnical engineering, and foundation improvements will not be required. Tank inspection work assumes access is available to each tank, including a fixed ladder to enter through the roof. **The tank float inspections will be performed by a structural engineer (PSE) in conjunction with each individual tank inspection (CSI) for a total of three tanks. Confined space compliance to be provided by CSI. Raft utilized for Tank Float to be provided by CSI and disinfected in accordance with current AWWA standards.***

Task 2.2 Recycled Water System Operations and Improvements Technical Memorandum – PBI understands that the District contracted with Carollo Engineers to prepare an alternatives analysis on the Bridlewood Tank in 2021 and that the analysis resulted in a recommendation to recoat the interior and exterior of the tank over two years to coincide with low recycled water demand in the winter months to avoid the need for temporary storage during construction. We will develop a recycled water system operations and improvements plan that addresses maintaining service in the Bridlewood Tank pressure zone during those two winter construction seasons. Our considerations will include but not be limited to: winter demand, alternative supply options including RW pump station and potable water supplies, improvements needed to maintain service for each supply alternative, Class 5 screening level cost estimates, and approvals needed to maintain regulatory compliance.

Task 2.3 Basis of Design Report – PBI will develop a BODR which analyzes all information from the structural analysis and determine any structural replacement and/or rehabilitation needed. The BODR will compare costs for structural rehabilitation, replacement in-kind, and replacement of the entire roof with an aluminum dome. The BODR will include 30% design level drawings, technical specifications, and a Class 4 construction cost estimates for the proposed project. Additionally, we will discuss, and compare and contrast, these alternatives, and combination of alternatives, specifically in relation to operations and maintenance of the tanks. The BODR will analyze how the District will isolate each tank for recoating, and identify additional piping and/or valving needed for each tank and other improvements needed to maintain service within the Bridlewood Tank pressure zone. The BODR will discuss environmental considerations including permits and regulatory processes, and aesthetics as they relate to the use of an aluminum dome. The BODR will also include a project schedule including the final design phase, environmental permitting and review, bidding and multi-year construction for the three tanks in Microsoft Project.

PBI will present the results of the Draft BODR to the District in a meeting as outlined in Task 1. We will electronically provide the BODR to the District a minimum of one week prior to the meeting. Along with the District, we will select a preferred alternative, at which point, we will update the Final BODR accordingly with all project requirements.

Deliverables: *Draft TM of the structural analysis; Draft Recycled Water System Operations and Improvements TM; Draft BODR with fully developed alternatives and cost estimates; and Final BODR addressing District comments and including selected alternatives.*

Assumptions: *Site visits will be coordinated with the District to restrict disruptions to operations and customers*

Task 3. Final Design – During the BODR phase of the project, a final design will be selected from the alternatives. At that time, PBI will begin advancing the design of the project towards a final design for bidding purposes. At each level of design, we will provide a detailed in house QA/QC prior to submittal to the District.

Task 3.1 60% Design Submittal – PBI will advance the design and construction documents from the 30% design level BODR to the 60% level of design for the recommended project defined in the BODR including the

following items: Updated schedule, 60% Design Plans (PDF file), List of Technical Specifications (word file), Draft Bid Form and schedule of bid prices (word file), and Class 3 Cost Estimate, as defined by AACE (excel file).

Upon completion of 60% design submittal, we will conduct a 60% design submittal review and coordination meeting. The 60% submittal will be electronically provided to the District at least one week prior to the workshop meeting.

Task 3.2 90% Design Submittal - PBI will incorporate comments from the 60% design submittal meeting and advance the project design and construction documents to the 90% level. The 90% design submittal will include the following: Updated schedule, 90% Design Plans (PDF file), Technical Specifications (word file), Updated Draft Bid Form, Schedule of bid Prices, and bid item descriptions (word file), and Class 2 Cost Estimate, as defined by AACE (excel file).

Upon completion of the 90% design submittal, we will conduct a 90% design submittal review and coordination meeting. The 90% submittal will be electronically provided to the District at least one week prior to the workshop meeting.

Task 3.3 Final Design Submittal – PBI will incorporate comments from the 90% design submittal meeting and prepare final contract documents for bid advertising. The final design submittal will include: Final Design Plans (PDF file and AutoCAD file), Final Technical Specifications (word file), Final Bid Form, Schedule of bid prices, measurement and payment descriptions and summary of work for inclusion in the contract documents, and Class 1 Cost Estimate, as defined by AACE (excel file).

Deliverables: 60% Design Submittal, 90% Design Submittal, Final Design Submittal. Each of these submittals will include written responses to comments **not** incorporated into the submittals.

Assumptions: No penetrations or appurtenances to be modified. The project designs will meet all applicable and current codes, laws, regulations, and professional standards and be designed in accordance with current District Standards; District to provide standard Division 0 and Division 1 specifications. PBI to provide work descriptions for inclusion into District’s standard specifications and will provide whatever Division 1 construction contract specifications are necessary for the Project and not supplied in District’s standard specifications; PBI will not “sole source” equipment unless requested and/or approved by the District; We will clearly identify and describe any necessary quality levels and quality control procedures such as inspections, tests, submittals, or other measures that the Contractor must satisfy, meet, or perform; PBI will include the requirements for the tests, controls, performances and certifications needed to verify the specified quality level of work for that specification section; we will include a dedicated subsection within each work-related specification section to identify and list required Contractor submittals along with testing and inspection requirements; Provide District with a separate listing of tests, inspections, and reports required under the construction plans and specifications prepared by the Consultant, and responsibility therefore, to occur in connection with the Project; Our cost estimates will take into consideration the current bidding environment.

Task 4. Regulatory/Environmental Processes and Permits Support – PBI will assist the District with engineering support for permit applications and additional CEQA environmental review if required. We understand that these activities will be initiated by the District following completion of the BODR and that our primary role in support of the project permitting and regulatory activities is to prepare information for permit application packages such as site plans, technical drawings, and project descriptions.

Deliverables: Site plans; technical drawings, project description, and activities of construction

Assumptions: The District will apply for all of the permits and approvals required for construction of the Project. Permit fees will be paid by the District

Task 5. Bidding Support – PBI will provide bidding support services including engineering services required to respond to bidder questions, provide clarification, prepare addenda and other activities as needed.

Task 5.1 Pre-Bid Conference and Job Walk – PBI will attend a pre-bid conference and job walk with the District and prospective bidders and explain the scope of the project.

Task 5.2 Respond to Bidder Questions – PBI will Interpret contract drawings and specifications during the bid advertisement period in response to bidder questions.

Task 5.3 Prepare Addenda – PBI will prepare addenda and submit to the District for distribution to the prospective bidders as agreed to by the District.

Task 5.4 Assist With Analysis of Bids – PBI will assist the District, as requested, to analyze bids and provide an award recommendation.

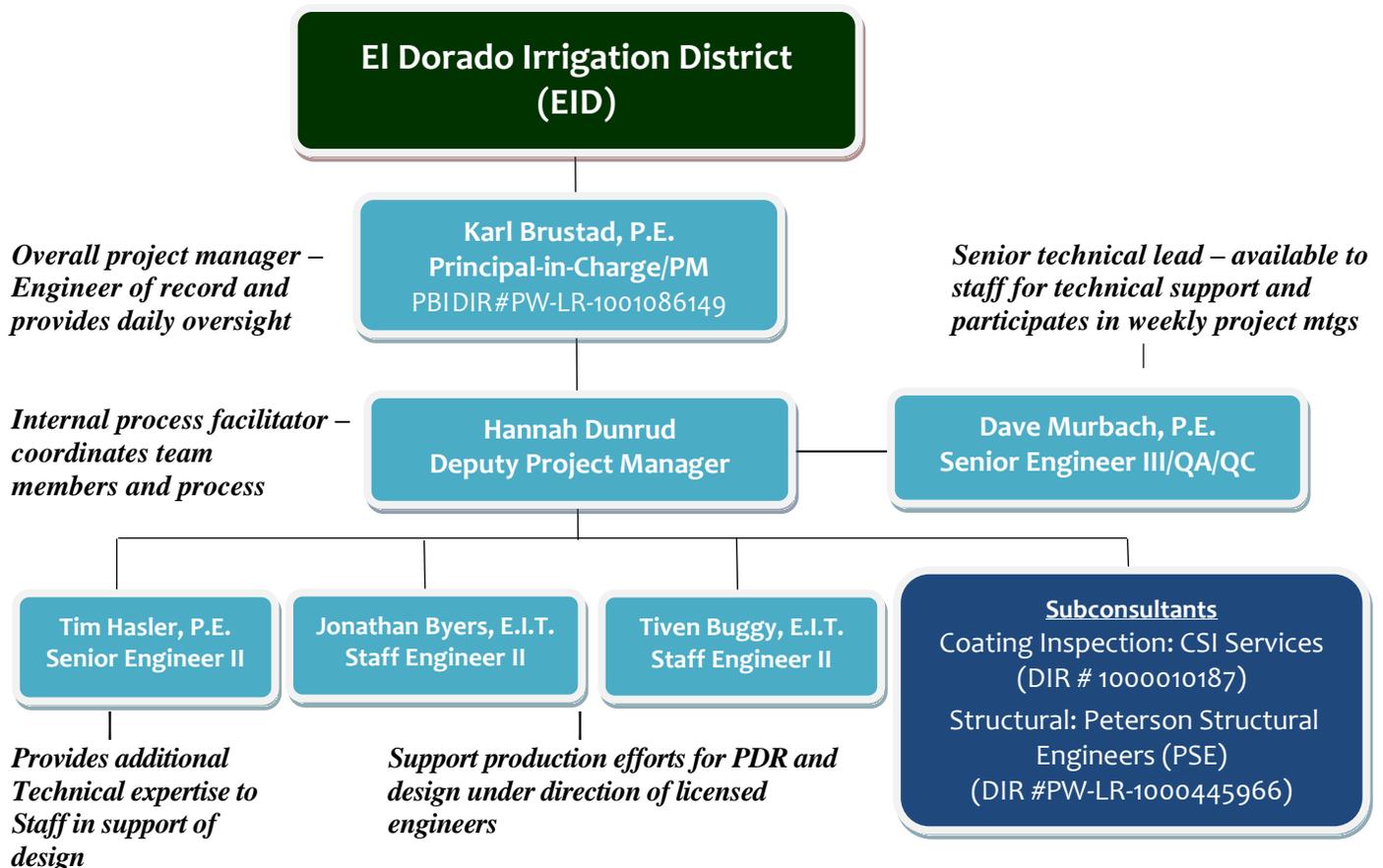
Deliverables: Bidder question responses; prepare addenda; award recommendation

Assumptions: Up to 3 addenda

SECTION 2 – RELEVANT EXPERIENCE AND EXPERTISE

Our team is being led by Karl Brustad, P.E., an experienced, highly qualified project manager and PBI principal, that is committed to your project. Hannah Dunrud, who is currently supporting the District’s EDM2 project, will serve as deputy project manager under the direction of Karl Brustad. She will be the District’s primary point of contact and will oversee all aspects of the project. Dave Murbach, P.E., one of our senior engineers with more than 35 years of experience will provide quality control/quality assurance. In addition, we have included CSI for the cathodic protection assessment and PSE for the structural analysis. Our team of qualified engineers and specialty consultants has the experience and expertise to make the project a success for the District. Figure 1 presents our project team organizational chart, which is followed by relevant experience of our key staff.

Figure 1 – Project Team Organizational Chart



Representative Client Comparison

Client	Location	Size	Sector	Operational Activities
El Dorado Irrigation District	Placerville	100,000 residents	Public	Potable water, recycled water
City of Roseville	Roseville	122,000 residents	Public	Potable water, wastewater, recycled water, and storm water
Calaveras County Water District	San Andreas	14,000 customers	Public	Potable water, wastewater, recycled water
City of Folsom	Folsom	85,000 customers	Public	Potable water, wastewater

Relevant Project Team Experience

Client	Project	Description
STORAGE TANKS		
Placer County Water District	Electric Street Tank	5,000,000 gal partially buried prestressed concrete tank
	Alta WTP Storage Tank	100,000 gallon welded steel storage tank
	Bowman WTP Storage Tank	100,000 gallon welded steel storage tank included cathodic protection
	Zone 3 Improvements	80,000 gal, 50,000 gal and two 10,000 gal welded steel tanks
	Monte Vista Tank	100,000 gallon welded steel storage tank
Foresthill Public Utility District	Water Treatment Plant Clearwell	1,000,000 gal welded steel tank
Turlock Irrigation District	Regional Surface Water Supply Project	Four 4,000,000 gal prestressed concrete tanks
Northern California Tribe	Water Supply Project	Two 500,000 gallon water storage tanks, one break tank, one
California American Water	Walerga Road Tank	2,000,000 gal welded steel tank
	Lincoln Oaks Tank	2,500,000 gal welded steel tank
	Mather Water Tank	New 3MG tank
	Cook Riolo Tank	3,000,000 gal partially buried prestressed concrete tank
	Elverta Tank	2MG tank
	Roseville Road Water Storage Tank	New 1.7 MG welded steel water storage tank
	Meadowbrook Tank	1MG welded steel storage tank
Sacramento Suburban Water District	Enterprise-Northrop Reservoir	5M gallon reservoir
	Antelope Reservoir	5M gallon reservoir
	Watt-Elkhorn Reservoir Condition	Assessment of 5M gallon reservoir
	Capehart Tank Condition Assessment	150,000 gallon elevated water storage tank
City of Folsom	La Collina Hydro Tank Replacement	Improvements to 1,000 gallon hydropneumatic tank
	East Reservoir No. 1	Improvements to 3MG welded steel tank included cathodic protection
	Reservoir No. 2	Rehabilitation of 2 MG tank included cathodic protection
	Tank Condition Assessment & Cimarron Tank	Assessment and rehabilitation of 13 water storage tanks 3MG welded steel tank including cathodic protection
Amador Water Agency	Tanner Water Treatment Plant	Two 500,000 gal welded steel tanks
	Ione Water Treatment Plant	120,000 gal welded steel tank
City of Yuba City	Garden Highway Tank Improvements	Improvements to 3MG reinforced concrete tank
Calaveras County Water District	Copper Cove Water System	Rehabilitation of .3MG Clearwell, .3MG tank, .75MG tank.

SECTION 3 – TEAM QUALIFICATIONS

Tank Master Plan, Inspection, Maintenance and Rehabilitation Program

City of Folsom, 2013 - 2016 and 2022 - 2027

- The original program was designed to inspect, assess, and repair the City's water storage reservoirs
- Currently providing a preliminary assessment of the City's 18 reservoirs including, including interior and exterior underwater evaluations.
- Providing tank cleaning to remove the sediment from the bottom of the tanks in order to provide a clear inspection of



- the tank bottom and taking pipe-to-soil potential measurements at test stations for water pipelines.
- Creating a prioritization schedule based on the urgency of repairs needed and estimating cost of tank repairs and rehabilitation for each location

Related Experience: Tank Rehabilitation Master Plan, Tank coating design and construction

Key personnel: Karl Brustad, CSI Services

Client Reference: Marcus Yasutake, Environmental and Water Resources Director, City of Folsom, (916) 351-3528, myasutake@folsom.ca.us

Welded Steel Tank Rehabilitation and CM: East Reservoir No. 2, Reservoir No. 1, and Cimarron Tank City of Folsom, 2014 - 2018

- Developed plans and specifications for rehabilitation of three existing welded steel tanks, including re-coating
- Provided construction management services including on-site inspection, included NACE certified coating inspectors
- Project included seismic retrofit for inlet and outlet piping, new wrapped stairway, and interior and exterior recoating

Related Experience: Tank rehabilitation including coating design and construction, steel tanks

Key personnel: Karl Brustad, Dave Murbach, CSI Services

Client Reference: Marcus Yasutake, Environmental and Water Resources Director, City of Folsom, (916) 351-3528, myasutake@folsom.ca.us



Condition Assessment, Design, CM and Ops Plan Development for Antelope and Watt/Elkhorn Reservoir & BPS

Sacramento Suburban Water District (SSWD), 2021 - 2022

- Design of operational retrofit for two reservoir facilities: Antelope Reservoir and BPS and Watt-Elkhorn BPS
- Development of Operations Plans to represent how each facility should be operated, identification of potential improvements needed, and creation of Recommended Retrofit TM
- Providing draft and final design documents including plans, specifications, and engineer's cost estimate for each facility
- Project includes bid assistance and construction management services

Related Experience: Tank condition assessments and rehabilitation including coating

Key personnel: Karl Brustad, Hannah Dunrud, Dave Murbach, Tim Hasler, CSI Services

Client Reference: Tommy Moulton, Assistant Engineer, SSWD, (916) 679-3345, tmoulton@sswd.org



Copper Cove Water System Improvements Calaveras County Water District (CCWD) 2022 - Present

- Providing design services for a series of high-profile capital improvements to the Copper Cove Water System
- Providing tank condition assessments followed by tank rehabilitation design for existing .3MG clearwell and .3MG and .75MG B Zone Tanks





- Providing design to construct a new, second clearwell (with cathodic protection) near the existing clearwell
- Design of new .5 MG steel tank, with cathodic protection, to replace existing .3MG redwood tank
- Providing assessment of .78 MG steel tank and identifying improvements needed
- Includes permitting services, right-of-way, utility coordination, and bid period support services

Related Experience: Tank rehabilitation design, new tank design, cathodic protection

Key personnel: Karl Brustad, Hannah Dunrud, Dave Murbach, CSI Services

Client Reference: Damon Wyckoff, Director of Operations, CCWD, (209) 754-3306, damonw@ccwd.org

SECTION 4 – PROJECT TEAM

Karl Brustad, P.E. Project Manager/Principal-in-Charge



M.B.A. CSU, Sacramento
B.S. Civil Engineering, CSU Chico
Professional Civil Engineer, CA
CA Grade IV Water Treatment Operator
Project Manager and Subject Matter Expert

Technical Specialties

- ❖ Water Storage Tank Rehabilitation & Design
- ❖ Water/Wastewater Infrastructure Planning, Design and Operation
- ❖ Construction Management
- ❖ Water/Wastewater Master Planning

Hannah Dunrud Deputy Project Manager I



B.S. Environmental Sciences – Oregon State
CA Grade III Water Treatment Operator
CA Grade III Water Distribution Operator
Over 5 Water Storage Tank Projects

Technical Specialty

- ❖ Operational Planning and Control Design for Water Facilities
- ❖ Groundwater Facility Design
- ❖ Water Quality and Environmental Compliance

Dave Murbach, P.E. Senior Engineer III QA/QC



B.S. Chemical Engineering, UC - Davis
Professional Civil Engineer, CA
Over 15 Water Storage Tank Projects

Technical Specialties

- ❖ Water/Wastewater Infrastructure Planning, Design and Operation
- ❖ Water Storage Tank Design
- ❖ Disinfection and Chemical Feed Facilities

Tim Hasler, P.E. Senior Engineer II



B.S. Environmental Engineering, Cal Poly CSU
Professional Civil Engineer, CA
Grade II Water Treatment Plant Operator
Grade II Water Distribution Operator
Over 10 Water Storage Tank Projects
Over 5 Tank Rehabilitation Projects

Technical Specialties

- ❖ Water Storage & Water Treatment Design
- ❖ Water Transmission/Distribution Design
- ❖ Well Design and Rehabilitation
- ❖ Water Master Planning

Specialty Sub Consultants

We have supplemented our team with specialty subconsultants that we have worked together with on numerous projects. We have included **PSE** Structural Engineers for the structural analysis and CSI Services for coating inspection assessments and cathodic protection. Their firm bios are presented below.

Peterson Structural Engineers PSE has provided design and consulting services for water-related infrastructure projects, including over 300 reservoir projects varying in material from concrete (both cast-in-place and prestressed), steel reservoirs of various types, and elevated reservoirs. In addition to new designs, PSE has extensive experience in evaluating and providing designs to repair or upgrade existing reservoirs.



CSI Services, Inc. CSI provides comprehensive coating consulting services including failure analysis, laboratory testing, expert witness, maintenance and corrosion surveys (dry and underwater), coating system evaluations, technical specifications, and in-process inspection of surface preparation and coating/lining applications. CSI has more than 40 inspectors with the vast majority having NACE and/or SSPC Coating Inspection certifications (including divers).

SECTION 5 - QUALITY ASSURANCE/CONTROL; CONFLICTS

We believe quality services and client satisfaction are the keys to the long-term success of our firm. Our mission statement and vision statement are founded on this principle. All deliverables will be reviewed by Dave Murbach prior to being delivered to the District. We have selected Dave for quality control for this project because of his more than 35 years of experience supporting water projects.

We utilize Bluebeam Revu, which is an effective tool to document QA/QC for all project deliverables. Bluebeam allows team members to maintain a single document of questions, edits, redlines, and comments while collaborating throughout the development of reports. This tool greatly streamlines QA/QC and collaboration amongst PBI and our clients. Everything is timestamped and clearly documented, allowing a high level of efficiency when answering questions, addressing issues, and completing QA/QC.

Peterson Brustad Inc. and our employees have no actual or potential professional conflicts that could hinder the provision of the requested services.

SECTION 6 - CLIENT REFERENCES

Marcus Yasutake, Environmental & Water Resources Director, City of Folsom, 50 Natoma Street, Folsom, CA 95630 (916) 351-3528
Tony Firenzi, Director of Strategic Affairs, Placer County Water Agency, 144 Ferguson Road, Auburn, CA 95603, 530-823-4965
Damon Wyckoff, Director of Operations, Calaveras County Water District, 120 Toma Court, San Andreas, CA 95249, 209-768-8682

SECTION 7 - CONTRACT AND INSURANCE REQUIREMENTS

Peterson Brustad Inc. has reviewed El Dorado Irrigation District's Sample Professional Services Agreement and agrees to abide by the terms and conditions presented therein, no changes are requested. PBI's insurance coverage meets or exceeds the District's insurance requirements.

SECTION 8 - ADDENDA

PBI is in receipt of all addenda issued by the District in response to this RFP.



Education

M.B.A., California State University, Sacramento

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

Registrations

Registered Professional Civil Engineer, CA No. 57869

Certifications

Grade 4 Water Treatment Operator, CA No. 22526

Certificate of Advanced Business Studies; CA State University, Sacramento

EXPERIENCE

Mr. Brustad is a founding principal of PBI and has more than 28 years of experience in the planning, design, and construction of water supply, water distribution, water storage, and water treatment systems. His experience includes groundwater and surface water treatment, storage tanks, pumping stations, pipeline distribution and conveyance, wells, master planning, flood control, telemetry, and SCADA. He is intimately familiar with a variety of water and wastewater modeling applications. Project experience includes:

WATER STORAGE AND PUMPING FACILITIES

Water Supply Project – Northern California Tribe. The first task for this project was the preliminary and 30% design of a floating intake and approximately 1.2 miles of water transmission main. The preliminary design report confirmed design criteria and identified recommended improvements. The 30% design was completed and a construction cost estimate was provided to the Tribe for the proposed improvements. Project includes the design of a 30,000 gallon/day water treatment plant, two water storage reservoirs (approximately 500,000 gallons each), one break tank, and one clearwell. The sizing of these facilities will be based on updated water demands and allow for the preparation of a preliminary design report to determine the design criteria for this project. Additionally, PBI will investigate the viability of pumping groundwater to the Tribal property in order to meet its immediate needs for drinking and fire suppression water until the planned Water Supply Project becomes on-line. An assessment will be made of the viability of utilizing the Tribe's existing wells and if necessary, design, permit, and locate additional wells including recommending the location for drilling additional wells and integrating the new wells into the existing water distribution system. An assessment will also be made of the general condition, water quality, and capacity of existing wells. Project includes permitting support for new and/or refurbished wells.

Security Park Pump Station Pump Replacement Project – California American Water (Cal Am), Sacramento, CA. 2022 – Present. Cal Am's Security Park Water System (System) includes one well (Well 2) and one pump station. The pump station includes two 1,000 gpm high flow pumps and two 300 gpm normal duty pumps with soft starters. A 150,000 gallon storage tank is also located at the pump station site. The two existing high flow pumps were installed in the 1950's and have exceeded their useful life; both pumps need to be replaced to increase the reliability of the pump station and ensure adequate water supply reliability under low system pressure. The scope of services includes the development of a set of improvement plans and specifications for the pump replacement, along with construction support services.

Capehart Tank Structural Analysis and Condition Assessment – Sacramento Suburban Water District (SSWD), Sacramento, CA. 2022 – Present. PBI provided a technical memorandum summarizing the peer review of the Capehart Tank structural analysis to determine if the reservoir meets current code requirements. Provided recommendations for rehabilitation of Capehart 150,000 gallon elevated water storage tank to improve structural components of the reservoir. The condition assessment is being done to provide a detailed reservoir evaluation of the interior (lining), exterior (paint) coatings, etc. Findings are being summarized in a report including rehabilitation recommendations and preliminary cost estimates for improvements.

Meadowbrook IMG Tank and Booster Pump Station – California American Water (Cal Am), Sacramento, CA. 2022 – Present. Cal Am's Meadowbrook Water System currently includes no storage; operational capacity is adequate, but peak hour demand equalization and maximum fire flow standards are not being provided in accordance with Title 22. To meet both Title 22 requirements and Cal Am planning criteria, a 1 million gallon (MG) storage tank and booster station (Facility) is necessary. The new facility will include a 1 MG welded steel storage tank and 2,000 gallon per minute (gpm) booster

station (two 1,000 gpm pumps and two 500 gpm pumps) located at the existing Well 4 site. The scope of services includes the development of a set of improvement plans and specifications for a fully operational facility. This project includes structural, electrical, and geotechnical services. Bid and permitting support services are also included.

Monte Vista Tank Replacement Project – Placer County Water Agency (PCWA), Auburn, CA. 2022 – Present. The Agency has identified an existing redwood tank in the Monte Vista water distribution system that needs to be replaced with a new welded steel storage tank. The current capacity of the existing Monte Vista tank is 60,000 gallons. The Agency desires additional storage capacity at Monte Vista, therefore our design will be based on providing one 100,000 gallon capacity tank at Monte Vista. The Monte Vista tank site is owned by the Agency as well as an adjacent parcel to the existing tank site, which is adequate for locating one new 100,000 gallon tank and a second future 100,000 gallon tank. This project includes bid support and construction support.

Hardrock Lane PRV Station Project – Foresthill Public Utility District (FPUD), CA. 2021 - Present. The project consists of the pre-design, design, and construction administration services for four pressure reducing stations and associated piping located with FPUD's distribution system. Performed preliminary field Investigative work to identify potential construction alternatives and establish the initial and long-term planning and design options for the different phasing alternatives of development. The PRV stations will be planned and designed to work with the FPUD's existing distribution system pressure zones. Project includes coordination with other utilities within the project area and bidding and construction support services.

Engineering Services for Condition Assessment of Watt-Elkhorn Reservoir – Sacramento Suburban Water District (SSWD), Sacramento, CA. 2021 – Present. PBI is providing a detailed condition assessment of the 5M gal Watt-Elkhorn Reservoir. The purpose of this condition assessment will be to conduct a detailed tank evaluation of the interior and exterior coatings, cathodic protection (CP) system, and structural components. The coatings evaluation will include a thorough inspection to evaluate the condition of the interior and exterior coating systems and note the level of visual degradation present and any other defects. The CP system will be assessed and recommendation(s) provided for rehabilitation. The detailed structural evaluation of the tank will include non-destructive testing (NDT) of plate thickness and welds, and will be based on current standards as set forth in AWWA D100-11 – Welded Carbon Steel Tanks for Water Storage.

Reservoir 1 Storage Analysis – El Dorado Irrigation District (EID), Placerville, CA. 2021 – Present. PBI is performing a storage evaluation of their service area utilizing the District's InfoWater models for all modeling efforts. Project includes evaluating current storage status and reviewing current system and operational status, and identifying limiting characteristics in the current system including reservoir sizing and water quality analysis. The evaluation will take into account both operational modes and utilizing a reservoir for both storage and treatment process. Using master plan future demand to create final models with projected demand information and final storage evaluation.

Colfax Twin Tanks Overflow – Placer County Water Agency (PCWA), Auburn, CA. 2019. Managed design of plans and alternatives analysis to reroute the water storage tanks overflow pipeline to alternative destination.

Design, CM and Operations Plan Development for Antelope and Watt/Elkhorn Reservoir and Booster Pump Station - Sacramento Suburban Water District (SSWD), CA. 2020 – Present. Design of operational retrofit for two reservoir facilities: Antelope Reservoir and BPS and Watt-Elkhorn BPS. Development of Operations Plans to represent how each facility should be operated, identification of potential improvements needed, and creation of Recommended Retrofit TM. Providing draft and final design documents including plans, specifications, and engineer's cost estimate for each facility. Project includes bid assistance and construction management services.

Design and CM for Operational Improvements to the Enterprise/Northrop Reservoir and Booster Pump Station Facility SSWD, Sacramento, CA. 2020 – Present. PBI provided design services to implement recommended improvements from an earlier effort to develop an Operations Plan for the Enterprise-Northrop Reservoir and Booster Pump Station. Improvements include: providing an Operating Scenario Selector switch, Resizing the Sodium Hypochlorite Metering Pumps, Adding new interlocks for the Reservoir Fill Valves, Modifying Booster Pump Station control and interlocks, Incorporating City pipeline flush into the control system, Providing reservoir turnover control during Groundwater Transfer to City scenario, Repairing electrical connections between City Supply MOV and PLC panel. Design documents include draft and final design plans, specifications, and engineer's cost estimate. Project includes bid assistance and construction management.

Enterprise/Northrop Operations Plan - Sacramento Suburban Water District (SSWD). Development of operations plan for tank, pump station, and intertie facility. Pump station can pump from tank or directly from City of Sacramento. Includes intertie between SSWD and City of Sacramento. PBI provided an assessment of how the facility was operated and identified recommended changes. This effort is on-going and will be summarized in Technical Memorandum.

Easton Booster Pump Station & Pressure Reducing Stations – City of Folsom, CA, 2014. Developed plans and specifications for three elements necessary to support the future Aerojet developments of Easton Place, Glenborrow and possibly others. The recommended improvements for the project included: a Booster pump station to supply water from the City's Pressure Zone 1 to the Glenborough Project as well as providing fire flow and two PRV Stations. Project included utility coordination, environmental services and bid support service.

Electric Street Reservoir and Transmission Improvements – Placer County Water Agency (PCWA), Auburn, CA. Provided design and construction management services for a 5MG partially buried reinforced concrete tank and approximately 1.5 miles of transmission mains. Project design needed to be completed within an aggressive 6-month schedule to comply with SRF Funding requirements. Project included SWPPP, Traffic Control Plans, Cal Trans Encroachment Permit, County and City encroachment permits, photo simulations for public outreach, and ROW acquisition.

1 MG Tank Design and Construction – Foresthill PUD, Foresthill, CA. Project manager and construction manager for the design and construction of a 1 MG welded steel storage tank and a 20" bypass pipeline at the Foresthill WTP. PBI provided construction oversight and on-sight inspection services, throughout the construction process.

Bowman and Alta Water Treatment Plants Backwash Storage Tanks Construction – Placer County Water Agency (PCWA), Auburn, CA. Construction Manger. Provided construction management services, specialty inspection services, and engineering services during construction for the construction of two new 100,000-gallon welded steel tanks at two separate water treatment facilities for PCWA. Work included the recoating efforts for a 1MG welded steel tank and a 100,000-gallon welded steel tank.

Skyridge Pump Station Optimization – Placer County Water Agency, Auburn, CA. Principal. Prepared pump station operational design for hydropneumatic system. Design included design criteria review and pump size selection, operational schema, and recommendations for system improvements.

Gold Village Drought Resiliency Project – Yuba County. Project Manager who provided well investigation and testing of four wells. Developed a feasibility study to assess the ability to provide a new, sustainable source of water to supplement the existing groundwater sources. Designed a new 37' diameter by 35' tall potable water tank with a useable volume of approximately 255,000 gallons. Design included site grading,

drainage, electrical, SCADA, pipework and appurtenances, foundation, access road improvement, fencing, paved parking area, and obtaining all required permits.

Arden Intertie and Booster Pump Station Project - California American Water, Sacramento, CA. Provided design services for intertie with Cal Am and City of Sacramento with a booster pump station in Cal Am's Arden system. Included coordination with City of Sacramento Dept. of Utilities for communication and control of flow meter. Project included development of plans, specs, and cost estimate. Included support during construction and start up.

Elverta Tank and Pump Station BODR – California American Water (Cal Am), Sacramento, CA. Project included a 2 MG tank, 5 mgd pump station, and well. Performed siting study, tank sizing calculations, and recommended operations strategy. Developed preliminary design, performed public outreach, submitted use permit application, identified property acquisition requirements, and developed landscape plan and project rendering.

Garden Highway Tank Improvements – City of Yuba City, CA. 2009 - 2010. Project included design of improvements to a 3MG reinforced concrete tank including coated interior, replaced interior and exterior ladders and improvements to interior piping. Provided design and construction management services.

Walerga Tank and Pump Station – California American Water (Cal Am), Sacramento, CA. Provided project management services for the planning, design, and bidding of a 2.5 MG above ground steel water storage tank and 3,500 gpm booster pump station. The project site is land locked and the challenges included procuring access ROW and easements for Cal Am and the other utilities such as SMUD. Responsibilities included: managing design consultants, permitting, technical review, inspection, invoicing, and project and construction management.

Half Moon Bay, Granada, and Alves Tank Improvements - Coastside County Water District, Half Moon Bay, CA. Provided design for the improvement of three tanks ranging in size from 0.2 MG to 2 MG. Included design of annular ring repair, fall protection system, inlet and outlet piping modifications, ladders, vents, and manways.

Finished Water Pumping Station - Stockton East Water District, Stockton, CA. Project manager for predesign and design of improvements to existing 50 mgd finished water pumping station at the water treatment plant. The project increased the pumping capacity to over 70 mgd including modifications to 48- to 54-inch-diameter distribution pipelines supplying water to California Water Service Company and the City of Stockton's service areas. The existing pumping station included 3 diesel-driven pumps that were replaced with electric motors. Improvements also included electrical and control system improvements, along with a backup generator.

Parkside Water Treatment Plant - California American Water, Sacramento, CA. Designed and provided construction management services for removal and replacement of one-ton chlorine cylinder with chlorine generation system.

Countryside Water Treatment Plant - California American Water, Sacramento, CA. Designed and provided construction management services for removal and replacement of one-ton chlorine cylinder with chlorine generation system.

Mather Water Tank, Booster Pump Station, and Water Main - California American Water/Sacramento County, Mather, CA. Project manager for a joint venture project for Cal Am Water and the County of Sacramento to prepare a siting study, and provided design, construction management, and inspection services for a new 3 million-gallon (MG) water tank, 6,000 gpm booster pumping station, and approximately two miles of 8- to 24-inch-diameter water main improvements. The transmission main was designed to transfer flows from the new tank and booster station south of Highway 50 to an area north of Highway 50. The state highway crossing utilized an existing railroad bridge and

required installation of licenses and agreements with federal government agencies, Union Pacific Railroad (UPRR), and Sacramento County. Identified project requirements, created, and evaluated proposal solicitations, oversaw consultant activities, developed, and tracked project costs and schedule for budget and schedule management, evaluated project solutions, and acquired permits for the booster pumping station. Construction management services were provided. Additionally PBI provide inspection of the pipeline construction, backfill material, and bedding material, as well as tank foundation, concrete, formwork, rebar, and compaction testing.

Cook Riolo Tank and Pump Station – California American Water (Cal Am), Sacramento, CA. Provided project management services for the planning and design of a 2 MG concrete, partially buried tank and 10 mgd pump station.

Coastside County Water District Tank Rehabilitation Projects – Coastside County Water District, Halfmoon Bay, CA. Provided design and construction management services for improvements to three existing welded steel water storage reservoirs. Improvements included ladders, hand railings, catwalks, and coating

Tank Inspection and Maintenance and Repair Program – City of Folsom, CA. Project manager for the City of Folsom’s tank cleaning and repair program. This was a three-year program designed to inspect and repair the City’s 13 water storage reservoirs.

Cimarron Tank – City of Folsom, CA. Provided design, construction management services, and specialty inspection services for the rehabilitation of a 3MG welded steel tank. Project included seismic retrofit, new wrapped stairway, and recoating efforts for 3MG welded steel tank.

Reservoir 1 Rehabilitation Design, City of Folsom, CA, 2014-15. Rehabilitation of a 1M gallon water storage tank which included recoating, corrosion protection system replacement, installation of expansion joints on pipes connected to the tank as well as other repairs. PBI provided design services and cost estimation for the tank rehabilitation and engineering support during construction.

La Collina Pump Station and Tank Replacement – City of Folsom, CA. Project manager for the design of the replacement of the water storage tank at the La Collina pump station. Construction manager for the replacement of the tank, and ancillary improvements to the tank. Duty pumps were appropriately sized for projected demand, fire pump capability was assessed, and a hydropneumatic tank was sized to prevent excessive pump cycling.

East Reservoir No 2 Rehabilitation – City of Folsom, CA. Provided design review, construction management services, and specialty inspection services for the rehabilitation of a 3MG welded steel tank. Project included installation of mixing system and recoating efforts for 3MG welded steel tank and installation of new ladder, piping and interior lining.

Foothill Water Treatment Plant Filter Rebuild Project - Placer County Water Agency (PCWA), Auburn, CA. Project manager responsible for the initial design of Actiflo treatment facility, chemical storage and feed and drying beds. Developed technical specifications to replace filter underdrains. Provided technical design support, bidding support, and construction support services.

Skyridge Pump Station Optimization Study - Placer County Water Agency (PCWA), Auburn, CA. Assessed the current conditions of the pump station. Prepared a technical document identifying alternatives to optimize the hydropneumatic pump station based on system demands, system pressures, and operator input. Identified that existing pumps were incorrectly sized and that existing control strategy reduced system efficiency.

Roseville Road Water Storage Tank, Pumping Station, and Water Main - California American Water (Cal Am), Citrus Heights, CA. Project manager for a siting study, project design, permitting assistance, public outreach, bidding, construction management

and inspection services for new 1.7 million-gallon (MG) welded steel water storage reservoir, 3,000 gpm booster pumping station, perimeter wall, and treated water distribution pipeline. Services provided included inspection of foundation, welding, and coating during construction.

High Lift Pumps Station Improvements – City of Yuba City, Yuba City, CA. Project manager for a design to increase the capacity of the High Lift Pump Station. Replaced a 250 hp pump with a 300 hp pump that can supply the load demanded from the station.

Booster Pump Stations - California American Water, Sacramento, CA. Completed preliminary design of two booster stations as second phase of two tank and booster sites. Applied extended period simulation capabilities of H2O Net to size and design the control parameters of each pump in multi-pump facilities.

Alternatives Evaluation for Backwash Water Storage – Placer County Water Agency, Auburn, CA. Principal. Evaluated alternative options for placement of new backwash storage tanks, including one 55,000-gallon and one 45,000-gallon welded steel storage tanks. Included placement of prefabricated sump and pump system, and piping to and from the backwash tanks.

Paseo Tank and Water Main - California American Water, Sacramento, CA. Project manager for siting study, design, and construction management for a new 1.7 million-gallon steel tank and 18-inch-diameter water transmission main that distributes flows from the tank and booster facility.

Dry Creek-West Placer Water Facilities - California American Water, Placer County, CA. Performed a siting study for the treated water storage tank and pumping stations in Placer County. Reviewed all the project plans, established relationships with associated developers and design engineers, and performed system hydraulic modeling to confirm that design standards were met. Assisted with water services agreement that enabled Cal-Am to purchase raw water from Placer County Water Agency that was wheeled through the City of Roseville.

Santa Cruz County Booster Pump Station - California American Water, Santa Cruz County, CA. Completed design and managed construction of a 100 gpm water booster pumping station located in the mountains of Santa Cruz County to alleviate low-pressure complaints due to an inadequate distribution system. Provided construction management services, including attendance at progress meetings; review of submittals, requests for information (RFIs), change orders, and final as-built drawings; documentation management; monthly status reports; and photo documentation. Also provided onsite construction inspection of the foundation, concrete, formwork, rebar, and compaction testing.

Bummerville Treated Water Storage Tank and West Point/Wilseyville Treated Water Storage Tank - Calaveras County Water District (CCWD), San Andreas, CA. As part of the water supply feasibility study, prepared a 30 percent design for 250,000-gallon and one million-gallon treated water storage tanks.

Montara District Schoolhouse Tank Water Storage Tank Site Assessment - California American Water, Montara, CA. Project manager for the review and analysis of water storage requirements and potential tank site locations. Coordinated with San Mateo County to identify permitting requirements for each alternative. The analysis identified that the master plan did not comply with California Department of Health Services (DHS) requirements.

Water Storage Tanks - California American Water (Cal Am), Sacramento, CA. Designed and provided construction management services for three water storage tanks with storage capacities of 1.7, 2.3, and 3 million gallons. Performed hydraulic analysis of closed-circuit pipelines using H2ONet and CYBERNET to select tank site locations. Also provided construction inspection of water storage tank foundation, ringwall, coating,

concrete, and rebar. Estimated construction costs: \$1 million (3 MG tank) and \$650,000 (2.3 MG tank).

Groundwater Pump and Treatment Systems at Barstow and Yermo Military Bases - U.S. Navy, CA. Designed and implemented two groundwater pump and treatment systems (1700 and 400 gpm) and three air sparge-vapor extraction systems utilizing granular activated carbon to remove VOCs (PCE and TCE). Also wrote specifications for subcontractors, equipment, and materials; inspected all deliveries of equipment and materials; supervised 30+ man crew and all subcontractors work; prepared detailed isometric piping plans; developed cut sheets for all excavations; performed calculations for sizing pipe and pumps; updated project schedules; managed all procurement items; and conducted weekly meetings. Estimated construction cost: \$12 million.

WATER TREATMENT PLANTS

West Point Water System Supply Reliability Project – Calaveras County Water District, San Andreas, CA. Raw water is treated at the West Point Water Treatment Plant (WTP) by a single train Microfloc/Trident clarifier-filter unit that was originally manufactured in 1994 and installed in 2001. The Trident unit is the District’s only usable means of providing treatment at this time and is at risk in the event of a mechanical failure. The District is equipping the existing facility with a new parallel treatment system to provide reliability and redundancy. PBI is designing the second treatment unit, including all necessary site work, demolition, modifications to the existing metal building and/or other structures, construction of associated piping, valves, pumps, tanks, chemical systems, SCADA, electrical and instrumentation.

Copper Cove Water System Improvements – CCWD, San Andreas, CA. 2022 – Present PBI is providing design services for a series of high-profile capital improvements to the Copper Cove Water System. Providing tank condition assessments followed by tank rehabilitation design for existing .3MG clearwell and .3MG and .75MG B Zone tanks. Additionally, providing design services to construct a new, second clearwell near the existing clearwell which will be equipped with cathodic protection. Providing design for new .5 MG steel tank to replace existing .3MG redwood tank. The new .5MG steel tank will also be equipped with cathodic protection. Providing assessment of .75 MG steel tank and identifying improvements needed along with associated costs. Design services include mechanical, electrical, and instrumentation components of three existing booster pump stations. Designing new control building to house to house pumps and motor controls. Project also includes design of new 20” transmission main, permitting services, right-of-way, utility coordination, and bid support services.

Coloma WTP Filter Backwash Improvement project – Golden State Water Company, Rancho Cordova, CA. 2021 – Present. PBI is designing improvements to the filter backwash process at the Coloma Water Treatment Plant (WTP) by connecting the filter backwash to system water. Connecting the filters to system water for backwash will allow the existing Coloma WTP effluent pumps to operate more efficiently and to maintain more consistent production and pressure from the Coloma WTP. The services requested include preparation of design plans, technical specifications, bid assistance, submittal review and engineering support.

Alta Water Treatment Plant Phase II and Phase III, Placer County Water Agency (PCWA), Auburn, CA. 2015 - 2019. Developed plans, specifications, and cost estimate for various site improvements to provide additional capacity at the existing Alta WTP. Phase II design improvements included: Increase raw water pumping capacity to match the filter capacity, improve raw water pump performance at low flows, provide screening upstream of the raw water pumps, replace the influent strainer and filter effluent propeller flowmeter, replace the plant water pump suction piping, and replace the standby generator and automatic transfer switch, Provided construction oversight in both the office and the field, reviewing the submittals and supplying as-built drawing for the

construction. Phase III design improvements included: replacing and upsizing pumping equipment by replacing the existing submersible pumps with two new units capable of meeting a firm capacity of 355 gpm to the WTP and replacing the existing pump station strainer with a screen or strainer to prevent moderate to fine debris from entering the pump station.

Jenny Lind Water Treatment Plant Pre-Treatment System - Calaveras County Water District (CCWD), San Andreas, CA. Designed pre-treatment process for the Jenny Lind WTP in response to impacts from the Butte fire. Performed condition assessment and developed predesign studies and reports for the alternatives of pretreatment. Developed the final design for the selected pretreatment process. Currently providing construction support services.

Buckhorn Water Treatment Plant Disinfection Byproduct Improvements Project – Amador Water Agency (AWA), Sutter Creek, CA. Project Manager for engineering design services to provide separation of the inlet and outlet at Tank A to reduce water age in the tank and add ACH feed and storage system for coagulation addition and to improve. Generated alternatives analysis to develop plans for installation of plate settlers in combination with the installation of drying beds. Project included construction management and inspection services.

Ione Water Treatment Plant Backwash Recovery – Amador Water Agency (AWA), Sutter Creek, CA. Project Manager provided review of prior studies and system information, evaluating alternatives for recycling backwash wastewater, and developing plans and specifications for backwash improvements. Project included engineering services during bidding and construction.

Ione Water Treatment Plant Expansion Project – Amador Water Agency (AWA), Sutter Creek, CA. Project Manager responsible for preparing alternatives evaluation for expansion of water treatment plant. Project included developing plans and specifications to expand the packaged water treatment plant capacity from 4mgd to 6mgd. Provided engineering services during bidding and construction

Tanner Backwash Recycling Project – Amador Water Agency (AWA), Sutter Creek, CA. Project Manager responsible for developing plans and specifications for backwash recycling and sludge dewatering improvements. Produced a plan for low-cost sludge dewatering process and revised control strategy to allow concurrent backwash/flush and treatment operations.

Regional Surface Water Supply Project – Turlock Irrigation District. Project Manager for the \$240 million pump station, water treatment plant and transmission system. Project included coordination with TID staff, design engineer, six design-build teams and four member cities that will eventually purchase the treated water from TID. Assisted with facility sizing, document review, permitting, design-build proposal development and workshops, bidding services and finance planning.

Program Management Services for Stanislaus Regional Water Authority (SRWA) – Turlock, CA. Provided on-call program management services to SRWA for plans to construct a Water Treatment Plant (WTP) and transmission pipelines to provide surface water from Turlock Irrigation District (TID) to the two cities of Ceres and Turlock for municipal and industrial uses.

Jenny Lind Water Treatment Plant Expansion – Calaveras County Water District (CCWD), San Andreas, CA. Principal. Provided design and engineering services during construction for the expansion of the existing water treatment plant from 5 mgd to 6 mgd. Design included additional treatment unit, building expansion, pipeline modification, electrical improvements, separation of filter-to-waste from backwash, and solids handling improvements.

Applegate Water Treatment Plant Backwash Water Treatment Pre-Design – Placer County Water Agency, Auburn, CA. Principal. Evaluated alternatives to determine the most effective handling and treatment of washwater residuals from an existing membrane water treatment plant. Prepared design calculations for solids generation and assisted in sizing and preparing life-cycle cost estimate for proper operation in residuals treatment.

Zone 3 WTP Discharge Elimination Project – Placer County Water Agency. Provided project management services for the planning and design of improvements at four different water treatment plants: Alta, Colfax, Monte Vista, and Applegate. Performed alternative analysis for solids removal of membrane backwash water and on-site disposal. Design included two welded steel backwash storage tanks, two cone bottom steel settling tanks, miscellaneous pipeline improvements, and electrical and SCADA improvements. For Alta WTP: New sump, pump, piping, and level controls to intercept 1,440 gpd of instrument water and return to backwash discharge pipe, with appropriate check valve(s). One new 45,000 gal above-ground steel settling tank. For Applegate WTP: New sump, pump, piping, and level controls to intercept 1,440 gpd instrument water and return to backwash discharge pipe, with appropriate check valve(s). Deskins Drying Bed. For Colfax WTP: New 85,000 gal above-ground steel settling tank. RWQCB (NPDES) and DHS (Operating Permit) Permit assistance. For Monte Vista WTP: New sump, pump, piping, and level controls to intercept 1,440 gpd instrument water and return to backwash discharge pipe, with appropriate check valve(s). New 6,000 gal HDPE backwash and filter to waste settling tank.

Operations Plans for four water treatment plants: Jenny Lind WTP, Copper Cove WTP, Hunters WTP, and West Point WTP – Calaveras County Water District (CCWD), San Andreas, CA. Principal in charge of provided engineering services to prepare the water treatment plant operations plans for four of the District's water treatment plants. Plans were prepared in accordance with the Department of Health Services and submitted to the California Department of Public Health. Plans included documentation of treatment plant processes, regulatory reporting requirements, and optimization of plant operation.

Bowman Water Treatment Plant Residuals Handling Improvements, Pre-Design – Placer County Water Agency, Auburn, CA. Principal. Evaluated alternatives to determine the most effective handling and treatment of washwater residuals from an existing conventional water treatment plant. Prepared design calculations for solids generation and assisted in sizing Deskins® sand drying beds for proper operation in residuals treatment. Prepared preliminary site selection for equalization basin, drying beds, and ancillary facilities.

Larkfield Water Treatment Plant Expansion – California American Water, Larkfield, CA. 2008-2009. Provided permit assistance, design, and construction management for the installation of a third filter and modifications to the existing filter controls to integrate the third filter. Intent of this project was to increase the WTP capacity to 1,800 gpm. Provided pilot testing services to investigate the potential application of ferric chloride co-precipitation and greensand pressure filtration process with respect to arsenic removal at the existing Larkfield Water Treatment Plant. Provided design and construction services for a new arsenic treatment system utilizing coagulation/filtration. Added Owner supplied third filter to existing arsenic treatment system. Project included construction management services.

Greenwood Reservoir Water Treatment Plant – Georgetown Divide PUD. Provided project review, design, and construction management for the construction of the Greenwood Reservoir WTP. Managed pre-construction, field reports and construction oversight, as well as as-built designs for the project.

Auburn 8 mgd Water Treatment Plant – Placer County Water Agency, Auburn, CA. 2007. Design and construction management services for a \$27 million modular treatment facility. Plant designed for expansion to 14.0 mgd, including in-ground clearwell RD

storage, high service pumping, and extensive SCADA system linked to wide area network for monitoring and control of all District facilities from this central location. Plus separate maintenance facilities and computer services building for serving District wide administrative needs.

Feasibility Study for Water Treatment Facility – Port of Stockton. Researched the concept of building a water treatment plan for the Port of Stockton region. Studied water demand, storage, and distribution data for the region. Estimated the requirements and costs associated with the facility and presented information helping to dictate the feasibility of the plant.

Auburn Lake Trails WTP Upgrade Feasibility Study – Georgetown Divide Public Utility District. Project Manager for the evaluation of alternatives to improve the existing filtration process from in-line filtration to a DPH approved technology including direct filtration, pressure clarification/filtration, contact clarification-filtration, and membrane filtration. Identified operational and regulatory improvements, in conjunction with GDPUD staff, which will improve the long-term operation and compliance of the facility.

Alternative Disinfection Processes Feasibility Study – El Dorado Irrigation District. Project manager for the study of different possible disinfection processes. Several different processes were investigated, each with different strengths, weaknesses, and cost associated to them. The group looked into which process or series of processes could most effectively meet the demand of the client at the lowest cost.

Felton Surface Water Treatment Facility - Town of Felton, CA. Siting study and resident engineering for a new \$4 million 1 mgd surface water treatment facility. Project included fish passage stream improvements, raw water intake and pump station, raw water and treated water pipelines, site work, 3,040-square-foot building, water treatment facilities, 500,000-gallon welded steel backwash tank, and two reclaimed water basins. Facilities are located on extremely hilly terrain.

Montara Water Treatment Plant - California American Water, Montara, CA. Planning and siting study for the new 0.5 mgd Montara Water Treatment Plant, 1 MG treated water storage tank, and treated water distribution piping. Facilities are located on extremely hilly terrain and in a coastal region.

WATER DISTRIBUTION AND PIPELINES

Vista Burns Backyard Main Replacement Project – California American Water (Cal Am), Sacramento, CA. 2022 – Present. The Vista Burns Backyard Main Replacement Project includes the installation of approximately 13,700 feet of new front yard water mains, associated meters, and related appurtenances. Design services include: field survey, design document preparation, and preparation of permitting documentation for the encroachment permit and Department of Drinking Water (DDW) variance request letter for pipeline crossings and separations. This project was identified as next in line by utilizing historical main break records in combination with input from operations staff.

Covey Road Pipeline Replacement Project – Placer County Water Agency (PCWA), Auburn, CA. 2022 – Present. This project is to replace a section of existing 12-inch techite pipe in the water distribution system located in the Bowman area, just north of Auburn, on Covey Road, Placer County. The Agency plans to replace approximately 650 LF with a new pipeline on Covey Road, west of Edgell Lane, in the Bowman pressure zone (HGL=1797). The new main size will be either 10 or 12-inch, to be determined by the Agency. Approximately 15 existing services are expected to be re-connected to the new pipeline when completed, and the project design should include new service connections and meter/meter box installations to properties located along this section of pipeline. Some existing meters are master meters to private service lines serving multiple customers, and are larger than the typical 5/8-inch residential meter. Project includes

testing for corrosive soils, cathodic protection, utility coordination, permitting support, bid assistance and engineering support during construction.

Liz Taylor Flume – PCWA, Auburn, CA. 2022 – Present. The Liz Taylor flume is on RR property and thus requires an easement to complete the work. PBI is performing and providing hydraulic calculations to show that invert siphon, demo plan of existing flume, Inlet and outlet structures as well as blow off and manway access hatch at low spot in siphon. Plan and Profile of new piped portion, Plan set to be submitted to UPRR for approval. Project includes survey and permitting assistance.

2020 Priority Mains Replacement Project - California American Water (Cal Am), Sacramento, CA. Project manager for design services to install new front yard mains with new front yard services and meter boxes for the Sampson-Dewey project area. Design includes specifications and drawings for approximately 13,500 feet of new front yard mains, associated services and meters, and related appurtenances. Project includes field survey, proposed utility crossings and Department of Drinking Water variance approvals, permitting support, and bid and construction support services.

Fruitridge Vista Water System 2021 Backyard Drop-In Meters – Cal Am, Sacramento, CA. 2021 – Present. PBI provided the design of approximately 330 backyard and front yard drop-in water meters and new service laterals. The project includes: the development of design plans and specifications, permitting, and bid assistance. Project is currently in construction and PBI is providing construction support services.

2021 Backyard Main Replacement Project - California American Water, Sacramento, CA. Project manager for design services to relocate backyard mains and services to front yard. New front yard mains include service laterals, meters and boxes, hydrants, and related appurtenances. Design includes specifications and drawings for approximately 15,500 feet of new water mains and 330 service laterals and meter installations. Project includes field survey, proposed utility crossings and Department of Drinking Water variance approvals, encroachment permit and permitting support, and construction support services.

Fruitridge Vista 5 Year Meter Replacement Project - California American Water, Sacramento, CA. Project manager for design of approximately 575 meters to be installed at those services that already have front yard service lines. Design of approximately 575 drop-in meters and 570 new front yard service connections as conversions from back yard mains. Design documents include drawings and specifications. Project includes identification and support of permitting needs including County Encroachment permit for new front yard service connections. Project includes engineering services during construction including: bid support, submittal review, RFI review, and preparation of As-Built drawings.

Dutch Flat Mutual Consolidation Project - Placer County Water Agency (PCWA). The objective of the project was to connect PCWA's Alta water system to the Dutch Flat Mutual water system, bring the Dutch Flat Mutual water system up to current design standards and ultimately dissolve the mutual water system with the consolidation of the two systems. Developed preliminary design report assessing alternatives for the consolidation of Dutch Flat Mutual. Design included plan and profile sheets for approximately 2-miles of water distribution pipelines ranging in size from 10" to 8" to replace the existing undersized and failing distribution system: intertie the two systems, install tank control valve, SCADA, pressure reducing station, and replacement of approximately 10,000lf of water mains. Utilized potholing and USA markings from geotechnical effort to identify locations of existing utilities. The design included replacement of water services and in many cases required modified connections to the existing customers. Included permitting coordination with the Department of Drinking Water and Placer County.

Oak Avenue Parallel Pipeline Project – City of Folsom, CA. Providing design services to eliminate the need for emergency storage at the Oak Avenue pump station and would like to divert flow through a parallel pipeline. Project design includes the development of plans and specifications for the construction of the Oak Avenue Parallel Pipeline. Project includes coordination of survey, right of way, and environmental services. Project will also include bid support and construction support services.

Foresthill Road Pipeline Replacement Project - Foresthill Public Utility District. Project included the design of approximately one mile of 12” diameter water main in Foresthill Road to replace an old failing main. Included installation of new meters and service lines for approximately 35 homes. Design included existing utility location research and inclusion into the design along proposed pipe alignment. Design included applicable detail sheets, including pipeline appurtenances, trenching, and detailed tie-in plans. Included permitting coordination with the Department of Drinking Water and Placer County. Project included bid support and construction management services.

Mosquito Ridge Road to Thomas Street Pipeline Project - Foresthill Public Utility District (FPUD). Design of 6,200 feet of replacement pipeline along Foresthill Road between Mosquito Ridge Road and Thomas Street. Includes 600 feet of replacement pipeline along Sierra View Lane. Improvements will include all necessary valving, separation, hydrants, and service connections to all allow the District to abandon the existing main. Includes the development of a set of improvement plans and includes providing a complete set of written construction specifications for the proposed pipeline. Project includes: survey services, bidding support, and construction management services.

Transmission Main Evaluation – City of Roseville, CA. Project Manager for the development of a full desktop evaluation utilizing a risk-based approach for all of the transmission mains within the City of Roseville. Conducted collaborative workshops with City Staff to develop the desktop evaluation.

Trussel Plant Offsite Improvements Project – Golden State Water Company. Project manager for the planning and design to provide piping for drainage of surface runoff and well water discharge. Provided water main connection to existing main in a residential street. Design included street improvements. Project included permitting, and right-of-way support.

Keena-Bell Pipeline Project – Placer County Water Agency, Auburn, CA. Project objective was to replace and relocated a failing cross country water main and place within County and private roads. PBI provided design services for the installation of 2,200 ft of new 18” transmission line to replace an aging 14” pipeline. Project was mostly through private property and required reconnection of existing water services. Project included permitting coordination with the Department of Drinking Water and Placer County and public outreach to coordinate proposed improvements with property owners and assist PCWA with development of permanent and temporary construction easements.

Ophir Road Pipeline Project – Placer County Water Agency, Auburn, CA. Provided design services for the installation of 2,200 ft of new 12” transmission line. Completed design in less than three months to allow new water service to a community with a failing well. Design included traffic control plans, Placer County encroachment permit, and coordination with Placer County.

Bradshaw Road Pipeline – California American Water (Cal Am), Sacramento, CA. 2010 - 2011. Provided preliminary design, permitting, utility coordination, and attended project meetings for the design of 1,400 lineal feet of 12-inch transmission main pipeline to improve system efficiency and performance. The pipeline is to connect two existing 12-inch dead-end mains and connect to the Suburban and Rosemont water systems. The project was in an area with congested utilities and involved extensive coordination with other agencies. The design was based on several criteria including: cost, constructability,

encroachment/right of way, existing utility locations, traffic control, accessibility, and hydraulic efficiency.

Red Ravine Siphon – Placer County Water Agency, Auburn, CA. Designed approximately 1,000 feet of 24-inch raw water main to replace and relocate existing main that has deteriorated and is prone to leaks. Project included utility coordination, permitting services, and engineering support during bidding.

Channel Hill Neighborhood Water System Improvements – Placer County Water Agency, Auburn, CA. Principal in charge of design for 1,200 linear feet (LF) of 6-inch diameter ductile iron pipe to convert an existing neighborhood to a higher pressure zone. Designed for demolition of unused facilities and clean-up of piping connections. Coordinated with Placer County to obtain Encroachment Permit. Prepared design of multiple private service pipelines. Coordinated preparation of plats and legal descriptions for temporary and permanent easements. Coordinated re-construction of past easements and exceptions to resolve deed / easement mismatch.

Highway 20 Pipeline Infrastructure Realignment Project – Browns Valley Irrigation District (BVID), Browns Valley, CA. PBI developed plans and specifications for the relocation of approximately 5,620 feet of pipeline including three Highway 20 crossings. The new HDPE pipeline was designed to replace those impacted by the Highway 20 realignment. Project included the development of traffic control plans, assistance with bidding, and providing engineering support during construction. Prepared As-built drawings.

Sicard Pipeline Project – Browns Valley Irrigation District (BVID), Browns Valley, CA. The objective of the project was to pipe approximately 10 miles of an open ditch system (Sicard Flat Ditch) to eliminate water loss from the ditch and improve service to customers. PBI developed a planning study to determine build out pipeline sizing and to identify preferred alignments. The project was broken up into 6 phases and included a detailed construction sequencing plan as the construction had to occur during limited windows between October and April to avoid impacting the seasonal irrigation demands. The design included plan and profile design sheets and specifications for the construction of approximately 9.6 miles of new 48" to 24" pipeline. The alignment included cross country, dirt roads, county roads and the existing ditch.

Crestridge Lane Pipeline Replacement – City of Folsom, Folsom, CA, 2014. Developed plans and specifications of a new water pipeline that will replace a privately owned pipeline serving approximately 40 homes in a community built on a single parcel. Design included installing individual water meters at each home which were originally served through one meter at the bottom of the parcel. Construction manager for the replacement of this pipeline.

Historic District Utilities Rehabilitation– City of Folsom, Folsom, CA. Designed over 6,000 feet of 8-inch water main and over 1,000 feet of 8-inch sewer main to replace old mains. Developed plans and specifications for the project, including traffic control plans. Provided engineering support during bidding. Provided construction management services including progress payment review, submittal review, RFI's, contract change orders, weekly construction meetings, and as-built plans.

Relocation of Water Lines for the I-80 Auxiliary Lanes Project – City of Roseville, CA. The I-80 Auxiliary Lanes Project has three storm drain crossings that conflict with the City's distribution water mains that will require relocation. PBI developed the relocation plans for three conflicting water lines so they could be incorporated into the Caltrans contract documents for I-80 auxiliary lanes project.

Golden State Water Intertie Pump Station and Pipeline – City of Folsom. Project manager for the feasibility study, design, and installation of 1,800 feet of pipe to connect Intertie pump station with the City of Folsom system. Required the coordination of Folsom, Easton, and intertie pump stations designed to tie the utilities of each together

into the City of Folsom water system. Managed the whole process, including feasibility studies, designs, and as build designs.

Lower Wikiup Pipeline – California American Water (Cal Am), Sacramento, CA. 2009.

Designed over 900 LF of water pipeline in a narrow right of way requiring special permissions from California Department of Public Health (CDPH) for installation. Also included construction management services.

Highway 26 Transmission Line Extension – Calaveras County Water District, Jenny Lind, CA. Principal. Prepared design for over 7,300 linear feet (LF) of 12-inch diameter ductile iron pipe. Coordinated with CalTrans and Calaveras County to obtain Encroachment Permits. Coordinated design of four pressure reducing stations. Developed traffic control plans. Provided bid-period services including pre-bid meeting, addenda, RFI responses, and also provided engineering services during construction including submittal review, responding to RFIs, and provided opinion on construction change orders.

Ebbetts Pass Reach 3A Pipeline Technical Review and Hydraulic Modeling - Calaveras County Water District, San Andreas, CA. Provided assistance to CCWD with development of the project design including: project deliverables, plans, specifications, and cost estimate. Updated and utilized the InnoVize InfoWater hydraulic model of water system to develop the construction sequencing plan. Provided evaluation of several miles of Ebbetts Pass transmission mains to prioritize improvements by reach – each reach varied in length from one to five miles.

Loomis Basin Pipeline - Placer County Water Agency. Provided QA/QC services for plans and specifications for 14 repairs to existing 24-inch diameter treated water pipeline. Managed development of traffic control plans and ROW acquisitions. Completed Caltrans and Placer County encroachment permit applications.

Backyard Main and Meter Retrofit Project – City of Sacramento. Project manager for design of improvements to replace backyard mains with mains located within the public right-of-way and the installation of new water services with meters. Project included over 50,000 LF of new water mains and approximately 1,000 new water services with meters.

Isleton Distribution System Improvements – California American Water. Established methods required to abandon in-place water pipes in levee. Designed plans and specifications for the construction of new pipelines and water service connections through levee. Coordinated and supported permitting efforts with descriptions and figures to obtain all necessary permits. Provided engineering support during bidding and construction.

Larkfield Pipelines Project – California American Water. Provided design and engineering support during construction for the Larkfield Pipelines Project. Services include: identify potential utility conflicts that may be located within the vicinity of the project, development of plans and specifications adequate for the construction of the Larkfield Pipelines, obtaining permits as identified, participate in the bidding process including: pre-bid walk through, response to question, and preparation of addendum. Provide engineering support during construction.

Elverta Road Bridge Main Replacement, (Antelope System) - California American Water, Sacramento, CA. Project manager for preparation of a basis of design report (BODR) for the Elverta Road Bridge Main replacement project, which involved removal and replacement of approximately 280 lineal feet (LF) of 12-in-diameter water main attached to the Elverta Road Bridge.

Water Distribution and Fire Protection System Improvements for Grant Grove and Lodgepole Areas of Sequoia and Kings Canyon National Parks – National Park Service, Three Rivers, CA. Project Manager. Participated in a scoping meeting,

coordinated with the surveying subconsultant, and provided preliminary design services for improvements to reconstruct major components of the water distribution systems in the Grant Grove and Lodgepole areas of the Sequoia and Kings Canyon National Parks. Project involved removing and replacing approximately 33,100 linear feet (LF) of water pipelines ranging in size from less than 1 to 10 inches in diameter that were old, deteriorated, and failed on a regular basis.

Copper Cove Water System Zone C Pumping Station and Transmission Main Improvements - Calaveras County Water District, San Andreas, CA. Project manager for preliminary design and final design of a new 2,000 gpm (4,500 gpm buildout) water pumping station and approximately 10,000 linear feet (LF) of 20-inch-diameter water transmission main.

Eldridge-Madrone Pipeline - Sonoma County Water Agency, California. Project manager for design of approximately 8,500 linear feet (LF) of 27-inch-diameter mortar-lined and coated steel pipe. Design included: connections to existing piping facilities, valves, cathodic protection, and appurtenances.

On-Call Engineering for Capital Improvement Projects - California American Water Company, Sacramento, Placer, Sonoma, and San Mateo Counties, CA. Project manager for on-call contract to provide preliminary design, design, and construction management services for miscellaneous projects as part of the capital improvements program. Projects included: West Placer County Development projects (four miles of 12- to 18-inch-diameter water distribution mains), new pipelines and pipeline replacements for Larkfield District and in multiple service areas located within Sacramento County, two trenchless technology crossings, and multiple state highway crossings (Highway 1, Highway 99, and two at Highway 50). Also provided permitting assistance, which included acquiring permits through direct coordination with local agencies (Caltrans, Sacramento County, and San Mateo).

Montara District Year 2 and Year 3 Fire Flow Improvements for Pipeline Replacements - California American Water, Montara, CA. Designed and provided construction management for 19 pipeline replacement projects identified in the 1996 master plan.

Alta Vista Raw Water Main and Overflow Improvements - California American Water, Montara, CA. Project manager for design and construction of 3,000 linear feet of 6-inch-diameter water main as well as piping system to capture all overflow outlets at the Alta Vista Water Treatment Plant and direct overflows to the Alta Vista drainage system. The project satisfied San Mateo's requirements identified to update the system use permit. As a separate project, prepared an erosion control and bank stability plan to repair existing slope failure areas and mitigate potential future stability issues for a defined reach along the Alta Vista Raw Water Main's access pathway.

Water Distribution Reliability Predesign and Treatment Plant Failure Mode Analysis - Edgewood Water Company, Edgewood, Nevada. Evaluated alternatives for providing redundant treated water supply to improve the reliability of the water distribution system and designed an intertie between the 14-inch-diameter water distribution main and 14-inch-diameter water main supplying the Embassy Suites' fire protection system. The intertie included approximately 20 linear feet of 14-inch-diameter water main and one manually operated valve.

Parkway Booster Pump Station and Water Main - California American Water, Sacramento, CA. Project manager for design and construction of a 6,000 gpm booster station and two miles of 16- to 18-inch-diameter water main for a Sacramento County system to introduce surface water and fulfill conjunctive use requirements. The pipeline crosses Highway 99, adjacent to Morrison Creek. Oversaw consultant activities, developed and tracked project costs and schedule for budget and schedule management, evaluated project solutions, and acquired permits. Provided construction management

services, including attendance at weekly status meetings; review of submittals, requests for information (RFIs), change orders, and final as-built drawings; documentation management; monthly status reports; and photo documentation. Also provided onsite construction inspection of the foundation, concrete, formwork, rebar, and compaction testing.

Montara District Pipeline Replacement Program - California American Water, Montara, CA. Project manager for design, construction management, and environmental documentation and permitting of over two miles of pipe for the Montara District Pipeline Replacement Program. Program involved 13 pipelines ranging in size from six to 12 inches in diameter. Permits include Coastal Development Permit, Department of Fish & Game permit, U.S. Army Corps of Engineers Section 404 permit, San Mateo County encroachment permit, and Caltrans encroachment permit. Oversaw preparation of Initial Study and biological report, which enabled San Mateo County to prepare the Mitigated Negative Declaration. Project included three trenchless technology crossings. Microtunneling was utilized for alignment adjacent to highway and creek crossings.

Miscellaneous Water Main Projects - California American Water Company, Sacramento, CA. Designed multiple main projects ranging in size from 6 to 24 inches in diameter. Performed thrust analysis in designing joint restraints and deflections. Calculated distributed loads on rigid and flexible pipes for pipelines crossing beneath train tracks, parking areas, and conflict areas requiring minimal cover. Performed hydraulic analysis of closed circuit pipelines using H20Net and CYBERNET to select optimum pipeline sizes and locations.

Miscellaneous Water Distribution and Storage Projects at Barstow and Yermo Military Bases - U.S. Navy, CA. Provided design and construction management services for three reinforced concrete pads, over 35 wells, and over 15 miles of pipelines. Responsible for tracking all costs of the project: labor, equipment, subcontractors, etc., on a computerized project tracking system. Also inspected pipeline construction, backfill material, and bedding material; as well as tank foundation, ringwall, coating, concrete, and rebar. Estimated construction cost: \$4 million.

WATER PLANNING

Irrigation System Renovation Plan - Hallwood Irrigation Company (HIC), Marysville, CA. 2022 – Present. HIC's irrigation system was constructed more than 100 years ago without the benefit of modern construction and has been subject to a patchwork of temporary repairs for decades. HIC has lacked the resources to conduct a thorough investigation or comprehensive repairs, the system remains plagued with many leaks resulting in excessive water seepage and water losses throughout the network. HIC recently received a community impact grant from Yuba Water Agency to support their efforts to improve the reliability of their system. PBI is providing a condition assessment to identify deficiencies in the irrigation system (Phase 1) and then will develop the appropriate construction documents (Phase 2) necessary to implement the proposed improvements (Phase 3).

Recycled Water Master Plan Update and Hydraulic Model, City of Folsom, CA. 2020 – Present. The City has recently expanded its service area to allow for future development projects in the areas south of Highway 50. The City is preparing for significant growth, particularly in the areas south of Highway 50. The major planned developments south of Highway 50 include the Easton Project and the Folsom Plan Area (FPA). PBI is updating the 2015 Folsom Plan Area (FPA) Non-Potable Water Analysis 2.0 (2015 Analysis) in conjunction with developing a hydraulic model for the non-potable water distribution system. The Plan will include evaluation and sizing for existing infrastructure and planned backbone infrastructure.

Upper Mokelumne River Watershed Sanitary Survey Update – Calaveras County Water District, San Andreas, CA. 2021. PBI prepared the first Watershed Sanitary Survey (WSS) for the Upper Mokelumne River in 2011, then completed an update to that WSS in 2016. In 2021 PBI completed another 5-year update to the Upper Mokelumne River Watershed Sanitary Survey (WSS). The objectives of the watershed sanitary survey include: meeting the State Water Resources Control Board, Division of Drinking Water (DDW), Surface Water Treatment regulatory requirements, assessing conditions in the watershed that have the potential to impact raw water quality at the surface water treatment plants, analyzing the past five years of raw and treated water quality data to determine the treatment required to meet current and future drinking water regulations, and identifying watershed management practices that have the potential to reduce contaminants in the watershed.

Transmission Main Evaluation – Fair Oaks Water District, CA. Prepared a study to assess the current condition of FOWD’s transmission mains. Included development of alternatives for rehabilitation, abandonment, and replacement of the system. The evaluation concluded with a recommended alternative and a capital improvement plan for implementing that alternative.

2016 Water Master Plan Update and Urban Water Management Plan, City of Folsom, CA. PBI provided data review and analysis, development of demand projections, analysis of demand management measures, population and demographic analysis, system supplies, water supply reliability, water shortage contingency planning, climate change, and other factors. Updated hydraulic models for existing, intermediate, and build out scenarios. Evaluated the water system relative to current and future water demands consistent with 2015 Urban Water Management Plan and identified system improvements. Developed 10-year Capital Improvement Program including cost estimates. Prepared draft and final reports.

Recycled Water Master Plan Update and Hydraulic Model, City of Folsom, CA. Project Manager. Updated the 2015 Folsom Plan Area (FPA) Non-Potable Water Analysis 2.0 (2015 Analysis) in conjunction with developing a hydraulic model for the non-potable water distribution system. The Plan will include evaluation and sizing for existing infrastructure and planned backbone infrastructure.

2020 and 2015 Urban Water Management Plan – Fair Oaks Water District (FOWD), Fair Oaks, CA. PBI recently completed the 2020 UWMP for the assessment of all water utilities in Fair Oaks. Previously had prepared in its entirety, the 2015 UWMP per California Water Code. Providing analysis for the current system and its efficiency and designing a master plan that would be capable of satisfying the demand from the system. Evaluated all aspect of the UWMP sections including water supply and demand for existing and future build-out scenarios, water shortage contingency planning, system supplies, and other factors. Designing a plan for the construction and maintenance needed to be done to get the system to this level of operation.

Folsom Plan Area (FPA) Hydraulic Model Update - City of Folsom 2018 to Present. Integrating planned South of Highway 50 FPA and existing developments into the City’s hydraulic model and redistributing demand data to new development by land type. The model runs tests to confirm acceptable importation of new infrastructure. An intermediate model was developed to simulate temporary operation conditions prior to the Zone 4 tank being constructed.

Water System Model Update and On-Call Modeling Support – Fair Oaks Water District (FOWD), Fair Oaks, CA. Project manager supporting water system modeling of fire flow tests. Reviewed background information provided by FOWD to develop understanding of overall operation of the water system. Identified control settings against consistency with background information. Verified that the model was calibrated using the pre-drought fire flow data provided by FOWD in advance of updating model demands. Allocated demand by land use using Sacramento County land use data and

demand factors. Developed a Technical Memo describing results of the model verification and updated system demands. Provided recommendations to maintain model information moving forward.

Upper Mokelumne River Watershed Sanitary Survey Update – Calaveras County Water District, San Andreas, CA 2016. PBI prepared the 5-year update to the Upper Mokelumne River Watershed Sanitary Survey (WSS). The objectives of this watershed sanitary survey include: meeting the State Water Resources Control Board, Division of Drinking Water (DDW), Surface Water Treatment regulatory requirements, assessing conditions in the watershed that have the potential to impact raw water quality at the surface water treatment plants, analyzing the past five years of raw and treated water quality data to determine the treatment required to meet current and future drinking water regulations, and identifying watershed management practices that have the potential to reduce contaminants in the watershed.

On-Call Modeling Support Services - City of Folsom 2016 to Present. Water System Importing for Folsom Plan Area Developments into model and modeling of fire flow tests.

2018 Updated Master Plans and Rate Studies for Ebbetts Pass, Copper Cove and Jenny Lind - Calaveras County Water District (CCWD), San Andreas, CA. Project manager for the development of water master plans for the Jenny Lind, Copper Cove, and Ebbetts Pass water service areas. The master plan addressed existing and projected future demands, future water supply sources, existing and known future regulatory requirements, limitations to the current treatment process and capacity, alternative treatment processes, facility deficiencies, limitations of current facility communications, identification of flaws in security at facilities, and identification of facility improvements and timelines for those improvements. Developed capital improvement projects including: storage tanks, treatment facilities, booster pump stations, and distribution system piping. Evaluated existing capacity charges and made recommendations for new updated charges. Estimated costs for build-out conditions.

Generator Improvements 2013 - California American Water, Sacramento, CA. Project manager for the assessment of the emergency generators throughout all of the Cal Am water systems. Reviewed the status of all generators owned and operated by Cal Am, considering their condition, permit status, and positioning in order to optimize the output of the generators in case of an emergency. Provided a report for the recommendation of relocating, renovating, replacing, or purchasing of new generators in order to keep the wells meeting the level of demand for each system.

Jenny Lind Water Distribution System Model Calibration – Calaveras County Water District San Andreas, CA. Principal. Performed hydraulic model calibration using H2O Map for existing system to reduce water age and improve flow of water in selected portion of distribution system. Also evaluated hydraulic model for system improvements for CIP planning, which included evaluating existing facilities, projecting population growth and water demands, and performing fire flow analyses. Performed emergency low-water modeling to troubleshoot system's water distribution. Evaluated pressure reducing valve settings and interaction to maximize water distribution efficiency and restore pressure zones.

2010 Urban Water Management Plan – Georgetown Divide Public Utility District, Georgetown, CA. Project Manager for the preparation of the District's 2010 UWMP. Work included: evaluating effectiveness of existing best management practice, developing baseline water use, population projections, target water use, and water supply contingency plans. Benefit cost analyses were presented for demand management measures that were not implemented by the District. Presented UWMP to GDPUD Board of Directors.

2005 Ebbetts Pass Water Master Plan - Calaveras County Water District (CCWD), San Andreas, CA. Project manager for the development of a water facility and financial master plan for the Ebbetts Pass water service area, which consisted of 15 pressure zones with numerous subzones, 17 water storage tanks, 10 pumping stations, over 40 miles of transmission mains, and over 100 pressure reducing stations. The master plan addressed existing and projected future demands, future water supply sources, existing and known future regulatory requirements, limitations to the current treatment process and capacity, alternative treatment processes, facility deficiencies, limitations of current facility communications, identification of flaws in security at facilities, and identification of facility improvements and timelines for those improvements. Operation and maintenance issues that were evaluated include tank and pipe leaking, improper or nonfunctioning pressure reducing valves, Haloacetic Acid (HAA) formations in the water, and pressure regulation. The project, which involved hydraulic modeling of the system, was performed using H2OMap, 20-year life cycle cost analysis, and preparation of a financial plan to fund the construction of a phased capital improvements program and to replace facilities due to age or new regulations. The financial plan served as the basis for the adoption of new connection fees and replacement surcharges.

2005 Jenny Lind Water Master Plan - Calaveras County Water District (CCWD), San Andreas, CA. Project manager for the development of a water facility and financial master plan for the Jenny Lind water service area. The master plan addressed existing and projected future demands, future water supply sources, existing and known future regulatory requirements, limitations to the current treatment process and capacity, alternative treatment processes, facility deficiencies, limitations of current facility communications, identification of flaws in security at facilities, and identification of facility improvements and timelines for those improvements.

2005 West Point and Wilseyville Water Master Plan - Calaveras County Water District (CCWD), San Andreas, CA. Project manager for the development of a water facility and financial master plan for the West Point-Wilseyville water service area. The master plan addressed existing and projected future demands, future water supply sources, existing and known future regulatory requirements, limitations to the current treatment process and capacity, alternative treatment processes, facility deficiencies, limitations of current facility communications, identification of flaws in security at facilities, and identification of facility improvements and timelines for those improvements.

Generator Master Plan and Generator Improvements Project - California American Water (Cal Am), Sacramento, CA. Provided program management services for Cal Am's generator program. Provided civil and electrical design for new and replacement generators. Developed generator master plan that identified capital improvement needs. Acquired necessary permits including Sacramento Metro Air Quality Management District. Managed procurement and installation of natural gas services from PG&E.

Water Master Plan - Calaveras Public Utility District, San Andreas, CA. Performed a system-wide hydraulic model run representing approximately 3,000 rural customers in mountainous terrain. Developed a master plan for a 20-year planning period.

Water Master Plan for Antelope System - California American Water (Cal-Am), Sacramento, CA. Prepared a water system master plan for Cal-Am's Antelope system, which consisted of approximately 15 wells and over 12,000 service connections. Hydraulic model of the water distribution system was developed and calibrated.

Water Master Plan for West Placer County System - California American Water, Sacramento, CA. Developed hydraulic model for future development of approximately 20,000 service connections. Model utilized interties with other systems, along with multiple tank and booster facilities to provide surface water to the area.

Water Master Plan for Suburban System - California American Water (Cal-Am), Sacramento, CA. Prepared a water system master plan for Cal-Am's Suburban system,

which consisted of approximately 15 wells and over 20,000 service connections. Hydraulic model of the water distribution system was developed and calibrated.

Water Master Plan for Larkfield and Mountain Districts - California American Water (Cal-Am), Sacramento, CA. Prepared a water system master plan for Cal-Am's Larkfield and Mountain Districts. Each system includes up to 10 wells, a water treatment plant, and over 12,000 connections. Hydraulic models of the water distribution systems were developed and calibrated.

Water Master Plan for Lincoln Oaks System - California American Water (Cal-Am), Sacramento, CA. Prepared a water system master plan for Cal-Am's Lincoln Oaks system, which consisted of approximately 12 wells and over 12,000 service connections. Hydraulic model of the water distribution system was developed and calibrated.

Water Master Plan for Parkway System - California American Water (Cal-Am), Sacramento, CA. Prepared a water system master plan for Cal-Am's Parkway system, which consisted of approximately 10 wells, three water treatment plants, and over 12,000 service connections. Hydraulic model of the water distribution system was developed and calibrated.

Water Supply Feasibility Study - Calaveras County Water District (CCWD), San Andreas, CA. Project manager for a study that evaluated the feasibility of improvement projects identified in the 1996 master plan. Projects studied included Wilson Lake embankment replacement, Bummerville treated water storage and distribution system, Bear Creek diversion and raw water pipeline, West Point and Wilseyville water distribution system, Middle Fork Mokelumne River intake and pump station, and Regulating Reservoir intake and spillway. Prepared feasibility report summarizing recommendations and reviewed 30 percent designs of improvements. Improvements included 8,400 linear feet (LF) of 16-inch-diameter raw water pipeline for Bear Creek diversion, dam raising improvements for Regulating Reservoir to regulate flows, Wilson Lake dam replacement, 250,000-gallon and 1-million-gallon water storage tanks, instream infiltration gallery for Middle Fork Mokelumne River pump intake, and 4,400 LF of 10-inch-diameter raw water forcemain.

Spill Prevention (SPCC)- Sacramento Suburban Water District (SSWD), Sacramento, CA. Project manager for the review of the Spill Prevention Control and Countermeasure plans for the Walnut Grove and Antelope water systems. Implemented the plans and led training sessions for all of the District staff for these systems. Provided a copy of the plans to each member and gave them proper training for continued maintenance of the facilities in the systems.

Parkway Emergency Generators - California American Water, Sacramento, CA. Project manager for the design and planning for the installation of emergency backup generators in the Parkway water system. The planning required coordination with SMUD, as well as Cal Am to ensure that the generators would produce the proper output from the wells that they run. The generators are able to power wells large enough to meet the water demand for the system, and also have enough distribution so that they are spread across the SMUD power grids.

WELL REHABILITATION AND DESIGN

Middle Meadows Campground Vertical Well Design Project - Placer County Water Agency (PCWA) - Project includes siting the new well and developing performance specifications so that the *new* well can be drilled, constructed, developed, and tested for capacity and water quality. Well pump and piping will be designed for the well's capacity, lift, and required discharge pressure. Includes developing specifications for a precast concrete building on site to house the well, pump, controls, and storage of the power system in the off season. Approximately 2,000 feet of 2-inch pipeline will be

replaced between the well and storage tank as well as between the storage tank and the access road. A solar power system will be designed to operate the well.

Well Rehabilitation Program Management - California American Water, Sacramento, CA. PBI provided program management of the \$3,000,000 annual well rehab program. Cal-Am's systems include over 115 groundwater supply wells that varied in age and condition. Annually developed contract documents for two separate projects; well sustainability (above ground improvements) and well rehabilitation (below ground improvements) – included civil, electrical and structural design. Developed a standardized checklist of items to verify at each site visit and provided an analysis for each of the wells to determine the necessary maintenance or other changes needed in order to keep the wells operating at their optimum level. Performed condition assessments of the above and below grade conditions at the well sites and identified necessary repairs and improvements. Prioritized the well sites based on factors such as well performance, importance, use, and operational status. The work included a range of below ground and above ground improvements such as well cleaning, pump and motor replacement, civil and electrical improvements. Project included identification of required below-ground well work, design of well modifications, cost estimating, inspection services, and construction management. Site improvements included new hydro-pneumatic tanks, replacement coatings for tanks and piping, new electrical panels and controls, and site surfacing. Managed efficiency and specific capacity tests for well cleaning for all well sites in the Sacramento District. Prepared detailed construction schedules to complete rehabilitation on the highest priority wells. Provided construction management and planning services for various well rehabilitation projects. Tasks included technical supervision and project coordination, monitoring construction of underground and above ground well improvements, developing progress status reports, developing progress payments, submittal and RFI coordination, invoice review, progress review meetings and process change orders.

Countryside Way Well Above Ground Improvements - California American Water (Cal Am), Sacramento, CA. 2022 – Present. PBI is to provide both new above ground equipment and modifications to existing equipment to provide for a fully operational well site. The scope of services includes the development of a set of improvement plans, supplemented with written construction specifications, as necessary. The plans and specifications will include new improvements and modifications to existing equipment. Above ground improvements for the well site rehabilitation will include: a new 10,000 gallon hydropneumatic tank and appurtenances, new above ground welded steel water pipe and appurtenances, a new slab foundation for the diesel generator, new well site instrumentation and electrical and control , site security, relocation of the existing chlorine building, demolition and removal of existing site mechanical, electrical, and control equipment.

Roseville Road Well Above Ground Improvements - Cal Am, Sacramento, CA. 2022 – Present. PBI is providing design efforts for new above ground equipment and modifications to existing equipment as necessary to bring the new well, designed and constructed by others, into service. The scope of services includes the development of a set of improvement plans for equipping the newly constructed well and includes providing a complete set of written construction specifications for equipping the well.

Suburban-Rosemont Water System Well Siting Study – Cal Am, Sacramento, CA. 2022 – Present. The Suburban-Rosemont Water System has a total of 26 active wells within the service area as categorized by the Department of Drinking Water (DDW). The service area relies primarily on groundwater from the South American River Basin, and multiple wells within the system are threatened by the Aerojet, Inactive Rancho Cordova Test Site (IRCTS), and Mather Air Force Base contaminant plumes. A study will be conducted to analyze various potential new well sites in order to determine the most suitable locations for initial replacement wells. Cal Am will utilize the existing water system hydraulic

model to analyze system pressures and operational impacts for recommended well site locations.

Cottage Way Well Improvements Project - California American Water, Sacramento, CA. Principal in charge of design services for below and above ground improvements for a new well site. Below ground design included water, sewer, and storm drain pipelines for connection to existing utilities. Above ground design included wellhead piping, pump-to-waste, hydropneumatics tank, chemical feed, standby generator, all electrical and instrumentation, site drainage and paving, and perimeter CMU wall and gate. Managed extensive permitting efforts and public outreach including: County of Sacramento permits (Use permit, Building Permit, SIPA), Department of Drinking Water variances and coordination, and communications with adjacent property owners for project coordination approval and property acquisition

Silver Lake Campground Well Design - El Dorado Irrigation District (EID), Placerville, CA. 2021 – Present. Project includes improvements at the existing well site as well as construction of a new pipeline. New 5 gpm submersible pump, powered by solar panels and a backup battery, will be installed in the existing well. Project includes new CMU building to be constructed adjacent to the well to house a 3,000 gallon storage tank, storage space for the solar panels and back-up batteries. A distribution line will be installed from the well site to the two campgrounds. project includes approximately 2,500' of 2" HDPE water line along the existing dirt road and Highway 88

Fruitridge Vista Well #14 – Above Ground Improvements Design Services – Cal Am, Sacramento, CA. PBI is providing all above ground equipment necessary to rehabilitate the existing well. The improvements will include: block wall fencing, new pump and motor and mechanical piping, new well pad and pedestal, new hydro-pneumatic tank, new generator, and new electrical panel and controls. The scope of services includes the development of a set of improvement plans for the removal and replacement of all above ground facilities and includes providing a complete set of written construction specifications for equipping the well.

Hurley Way Well Initial Design – California American Water, Sacramento, CA. Cal Am is installing a new well within the Encina High School property and adjacent to Hurley Way. PBI is supporting the above ground and frontage improvements for the proposed well site in a phased approach including: storm drain extension from proposed site to existing storm drain, sewer service extension, water main extension, site plan development, and well site permitting support.

Well N10 Walnut Pump Replacement - Sacramento Suburban Water District (SSWD), Sacramento, CA. 2021 – Present. Well N10 was rehabilitated in 2020 and subsequent pump tests concluded that the well capacity was increased by approximately 14 percent after the rehabilitation. The district is looking to identify a replacement motor and pump that can return the well to its original capacity. PBI is currently developing bid documents for converting the well to a vertical turbine pump will be necessary to accommodate the PWL at the desired capacity. Design documents will provide for the removal of the existing pump and installation of the new pump. Project includes bidding and construction support services.

Well 30 Condition Assessment - Sacramento Suburban Water District (SSWD), Sacramento, CA. 2021 – Present. Well N30 has a history of water quality concerns primarily related to taste and odor. PBI is performing a condition assessment to define the condition of the existing well and either identify recommended rehabilitation efforts or determine if the well is beyond its useful life and should be abandoned.

Howe Well Site - California American Water Company. Project manager for the design of modified site layout with new generator. This project included modifications to the existing site layout, modifications to the piping connections to the distribution system and replacing the existing generator and electrical panel.

Dunnigan System – New Well Above Ground Design Services- California American Water, Sacramento, CA. PBI is providing all above ground equipment necessary to bring the well, designed and constructed by others, into service. The scope of services includes the development of a set of improvement plans for equipping the newly constructed well and includes providing a complete set of written construction specifications for equipping the well. PBI is coordinating directly with operations staff, engineering staff, water quality staff, procurement agent, equipment suppliers, SMUD and any other parties involved with the implementation of the proposed improvements.

Construction Phase Services for Well 41 Iris/Albatross - Sacramento Suburban Water District (SSWD). Providing construction phase services for Well 41. Engineering services during construction include: tracking and responding to RFIs, submittals, and contractor change orders; providing clarification to design intent; and coordination with SSWD during the construction phase. Providing part-time construction inspection to ensure compliance with contract documents. Project includes geotechnical inspection and testing. Startup services include: testing at design conditions as well as at variable conditions to verify that the proposed products will operate correctly once installed. Witness testing to be allocated to operate the unit at full and partial load conditions, simulate operation under extreme conditions, and perform noise emission tests.

Lincoln Oaks Oakberry Well - California American Water, Sacramento, CA. Upgraded equipment at Oakberry Well to meet current standards. Increased capacity of well to original pumping rate. Provided geotechnical evaluations for foundation design. Developed construction plans and technical specifications meeting DDW standards. Provided assistance during project bidding and provided Construction Management services.

2018 Well Abandonment Project - California American Water, Sacramento, CA. Program manager leading the efforts necessary to develop well abandonment plans for seven well sites including soliciting bids, managing procurement and construction efforts, assisting Cal Am in preparing the sites for sale, completing and processing well abandonment permits with Sacramento County and processing amendments for Cal Am's system wide Use Permits with DDW. PBI coordinated directly with operations staff, water quality staff, engineering staff, procurement agent, contractors, permitting agencies, and all other parties involved with the implementation of the well abandonments.

Montara District Airport Wells Mechanical Improvements - California American Water, Montara, CA. Designed and provided construction management services for mechanical improvements at three airport wells needed to allow for automated operation. Incorporated motorized valves to work in conjunction with SCADA improvements to allow wells to pump to waste prior to going into the system.

Montara District Airport Wells Feasibility Study and Optimization Plan - California American Water, Montara, CA. Project manager for development of a feasibility study and optimization plan in compliance with California Department of Health Services (DHS) requirements for the airport wells to address multiple water quality concerns, nitrates, iron and manganese, and low pH (corrosive).

Montara District Drake and Wagner Wellhead Treatment Systems - California American Water, Montara, CA. Designed and provided construction management services for an MTBE treatment system for two coastal wells: Drake Well and Wagner Well. System treats contaminated water. This project represented the first potable water MTBE treatment system approved by California Department of Health Services (DHS). Design, permitting, and installation of the treatment system were completed within a three-month period. Also managed design of two other granular activated carbon (GAC) wellhead treatment systems for tetrachlorethylene (PCE) and trichloroethylene (TCE).

Miscellaneous Water Distribution and Storage Projects at Barstow and Yermo Military Bases - U.S. Navy, CA. Provided design and construction management services for two groundwater treatment systems that included over 35 wells, and over 15 miles of pipelines. Responsible for tracking all costs of the project: labor, equipment, subcontractors, etc., on a computerized project tracking system. Provided construction inspection services.

STORM DRAINAGE PLANNING AND DESIGN

Pump Outfalls Replacement Project - City of Sacramento, CA. Providing condition assessment of outfalls for seven drainage sump station facilities for deterioration, structural failure, corrosion, or need for repair and/or replacement. Prepared pre-design report of recommended repairs and improvements including costs of those repairs and replacements. Developing plans, specifications, and cost estimates for pump outfall replacements at eight pump stations. Project includes survey, CEQA/NEPA compliance, and Water Pollution Control Plan. Project includes bidding and construction management services.

North Area Streams Levee Improvement Project, Sacramento Area Flood Control Agency (SAFCA), Sacramento, CA, 2014-Present. Geotechnical improvements were needed for the Arcade Creek and Natomas East Main Drainage Canal (NEMDEC) levees. The prescribed centerline and waterside cutoff walls require removal and replacement of through-levee utilities. PBI's role in this project was to deliver plans, specs, details, and cost estimates for removing and replacing the utilities that were impacted by construction of the cutoff walls. All pipe replacements needed to be designed to standards set by the 200-year Urban Levee Design Criteria (ULDC).

Westporter Well Storm Drain Design and Site Improvements – Cal Am, Sacramento, CA. PBI is providing design services for the Westporter Well storm drain and site improvements. Design includes an upsized storm drain connection from the well site to the existing storm drain located within Westporter Drive. The design services also include design drawings necessary for the construction of a new ASME code rated 5,000 gallon hydropneumatic tank and relocated chemical building. Project includes engineering services during construction and permitting support services.

Wildrose Well Storm Drain Design – California American Water, Sacramento, CA. PBI is developing plans and specifications adequate for the construction of the Wildrose Well Storm Drain. Project includes engineering support during bidding and construction and permitting support services.

Climate Change Vulnerability Analysis – County of Yuba, CA. PBI is preparing a climate change vulnerability analysis to examine the vulnerability of the urbanized areas of Linda, West Linda, and Olivehurst to climate change. The proposed project will inventory the existing drainage system, evaluate the capacity of the existing drainage system, and compare the existing capacity to anticipated flows based on the latest hydrologic data. This analysis will include the drainage facilities within the urbanized areas and will also examine how these drainage facilities interact with the downstream drainage facilities owned and operated by Reclamation District 784. This comprehensive study will be completed in close collaboration with Reclamation District 784 (RD 784), Yuba-Sutter Transit, and the residents of Linda, West Linda, and Olivehurst. The project represents the first phase of a comprehensive effort. Phase 2 of this comprehensive effort will include the development of a future capital improvement program (CIP) to retrofit the drainage system in the project area, incorporate water quality Best Management Practices (BMPs), and preliminary designs for critical improvements.

Retention Basin Outfall Improvements - Port of Stockton, Stockton, CA. Flow exiting outfall pipes had caused significant erosion to occur beneath the spillway, causing loss of supporting soils and resulting in the concrete to sag and break apart. There was a concern

that further erosion may occur, compromising the levee's integrity and posing a risk for levee failure. PBI designed repairs to the pump outfall such that the integrity of the levee is returned to pre-erosion conditions and maintained for the future. Developed a pre-design report as well as comprehensive plans and specifications for the construction of the proposed repairs. Project included bidding support services.

Karnak Pump Station Erosion Repair and Debris Screen Retrofit Project – Reclamation District 1500, CA. 2018- 2022. Planning, design, environmental, permitting and construction of a new automatic debris removal system and new sheet pile wall at the Karnak Pump Station facility. The project consists of the installation of approximately 400-ft. of new sheet pile wall to remediate erosion of the existing canal bank and the installation of a new automatic debris removal system to replace the existing debris screens located upstream of the pumps. The work is being completed as part of a FEMA Hazard Mitigation grant.

Moonbeam Drain Line Design – California American Water. Project Manager for the design and servicing of the Moonbeam Well Storm Drain. The permitting support included review and approval from Sacramento County for connection to the County's storm drain system.

Nut Plains Well Storm Drain Improvements Project - California American Water, Sacramento, CA. Provided planning, design and permitting support services for the installation of a new storm drain at Cal Am's Nut Plains well site. The permitting support included review and approval from the City of Rancho Cordova for connection to the City's storm drain system. Assisted with the storm drain lateral connection to County storm drain for well pump to waste.

Blossom Ranch Drainage Shed Analysis – City of Stockton, CA. 2017 – 2018. PBI performed a drainage shed analysis on the Blossom Ranch development area to assess: to what degree will storm water runoff increase in the future with continued urbanization expected within the drainage shed, will the increased runoff require additional or upgraded storm drain or pump station capacity, what system improvements should be considered to manage the increased storm water expected within the drainage shed, and will the post-development operating parameters of the storm water system be within the allowable capacity of the Calaveras River receiving waters. PBI used an existing rainfall-runoff model for the Calaveras River watershed, the EPA Stormwater Management Model (SWMM), and the City's GIS data to model a design storm scenario under existing and future/planned development conditions. Based on those results, an analysis was completed to determine various options for infrastructure improvements that could be explored to manage the future storm water runoff expected within the drainage shed.

Design Diversion of Summer Flows – City of Stockton, Stockton, CA. Project manager for the assessment and design for the pumping of wastewater flows for the City of Stockton. Assessed the production for four separate pump stations, to resolve the most effective way to divert the wastewater summer flows based on the specifications of each plant.

Storm Drain Master Plan – City of Stockton, CA. 2006-2009. Developed storm drain master plan, coordinated and complied with general plan update.

FLOOD CONTROL PLANNING AND DESIGN

Lower San Joaquin Reach TS30L Levee Improvement Project – USACE Sacramento District, Stockton, CA, 2020-Present. PBI is providing civil engineering related design and construction services for the development of the plans, specifications, and Design Documentation Report (DDR) for one mile of levee seepage/stability improvements along the Lower San Joaquin River through the USACE Pre-Construction, Engineering, and Design (PED) process. PBI has been involved in all aspects of the project including review and management of civil design plans, specifications, MCACES cost estimates,

right of way assessments, staging area and borrow source identification, as well as attendance at all USACE PDT meetings throughout the PED process.

Lower San Joaquin River Geotechnical Borrow Study Project – USACE Sacramento District, Stockton, CA, 2021-Present. PBI is developing the borrow site geotechnical report and grading plans for the borrow site for the Lower San Joaquin River Project (LSJRP). The geotechnical report and grading plans are being prepared for the entire LSJRP and the TS-30-L reach. The TS-30-L grading plans will supplement the plans and specifications, to provide the necessary Type 1 and Type 2 fill for the project. The work being performed by PBI includes: geotechnical investigations including borings and test pits at the Stockton East Water District potential borrow site, preparation of the geotechnical data report and recommendations for both the entire borrow site covering the LSJRP, and the TS-30-L reach, cultural monitoring during field work at the borrow site, preparation of borrow site grading plans at the TS-30-L reach, and preparation of borrow site grading plans to satisfy the entire LSJRP. In addition to these activities, PBI prepared quantity evaluations based on the potential borrow site configuration and the geotechnical data to determine the amount of suitable borrow available. PBI used this data to develop potential borrow site phasing for the LSJRP.

Lake Isabella Dam Project – USACE Sacramento District, Stockton, CA, 2022-Present. The Lake Isabella Dam is being modified to meet dam safety requirements. In order to accommodate the added filter and drain layers as well as the increase in Main Dam height, a portion of the Main Dam Campground owned by the US Forest Service (USFS), immediately downstream of the Main Dam will become part of the dam structure. As a result of this, the Main Dam Campground will be revised, including: revised individual camp site layout, new hose site, demo existing toilets, dump station, underground tanks, add new vault toilets, septic tank, paved parking lot, provide new electrical and water service, add or update picnic tables, fire rings, shade structures, grills, remove dead trees, and demo existing oxidation pond and regrade/vegetate. PBI is preparing plans, specifications, design documentation report (DDR), engineering considerations and instructions for field personnel (ECIFP), and MII estimates for the improvement features of this project. This scope of this design task includes all survey, civil, mechanical, structural, electrical, landscape architectural and cost estimating elements, as well as environmental and cultural monitoring during field activities.

On-Call Flood Management/ NFIP Support Services, Butte County, CA. 2021 – Present. PBI is currently providing floodplain management guidance and technical support to the County of Butte related to community drainage improvements, flood protection, floodplain management, and flood mitigation projects. Additional services include assisting with reviewing permits for development in the community’s floodplain to help determine compliance with community development standards and NFIP requirements; providing assistance with evaluating and managing the County’s interest in FEMA’s Community Rating Service (CRS) Program; preparing applications for funding and assisting with the implementation of flood mitigation projects, such as those under FEMA’s Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) Program, and Pre-Disaster Mitigation (PDM) Program; assisting and cooperating with FEMA and State Floodplain Manager representatives during Community Assistance Visits (CAV), Program reviews, and other floodplain management program actions; assisting County staff in review of policies, standards, and ordinances; and acting as an extension of staff to the County upon request.

Smith Canal Closure Device - San Joaquin Area Flood Control Agency, Stockton, CA. 2009 - Present. PBI designed a flood control closure device using an inflatable Obermeyer type gate structure which would be used to obtain FEMA 100-Year accreditation for the Smith Canal, in Stockton, California. The closure gate will be operated to prevent tidal flooding during high tides events, while maintaining navigational access for Smith Canal. Work involved hydrologic, hydraulic, geotechnical and structural analysis and preparation of a Conditional Letter of Map Revision for

FEMA review and approval. Provided QA/QC for final design phase documents. Project is currently in construction.

Feather River Sediment Management Project – Sutter Butte Flood Control Agency (SBFC), Yuba City, CA. In addition to project management duties, PBI performed the engineering design and developed the bid package for construction. Mr. Brustad provided QA/QC for the final design phase documents.

Unionhouse Creek – Sacramento Area Flood Control Agency (SAFCA), CA. Provided designs and construction management for the widening of Unionhouse Creek and the relocation of the City of Sacramento Storm Water Pump Station (Sump 201). Managed engineering, environmental and construction services for the Unionhouse Creek Improvement Project from Franklin Boulevard to Bruceville Road. Improvements were designed to contain the 100-yr flood flows at the lowest possible cost, while streamlining the permitting process, and accommodating a fast-tracked construction schedule. The improvements consisted of a combination of channel widening a 1-mile segment, concrete lining a 0.6 mile segment, and modifying an existing pump station.

On-Call Engineering Services – Placer County Water Agency. Provided on-call support services to PCWA for the construction, inspection, and rehabilitation for projects on several sites. Services included: the Colfax Ballpark Tank Overflow Alternatives Technical Memorandum redirecting overflow drain line; Security Improvements Plan Design and Specs including fencing improvements at various PCWA sites; Foothill Water Treatment Plant buffer property fencing plan design to develop new fencing around the Foothill WTP Buffer property; an update to the Fluoridation cost estimate; Pre-Design of Bowman WTP Residuals Handling Improvements; and several miscellaneous design support tasks.

South Stockton Aqueduct - City of Stockton, California. Project manager during design, environmental permitting, and construction engineering services for five miles of new 42-inch-diameter water transmission main extending from the Stockton East Water District treatment plant to the city's water distribution system on Pock Lane. Project included preparation of Supplemental Assessments for Contaminants of Concern, cathodic protection analysis, traffic control, public outreach, preparation of the operations and maintenance (O&M) manual, modifications to the high service pumping station, and the completion of permits and agreements for Burlington Northern Santa Fe, California Department of Transportation (Caltrans), San Joaquin County, California Department of Fish & Game, U.S. Army Corps of Engineers, U.S. Fish & Wildlife Services, Regional Water Quality Control Board, National Marine Fisheries Service, City of Stockton, and State Reclamation Board.

Sacramento District Pipeline Replacements - California American Water, Sacramento, CA. Project manager for design and construction management of multiple pipeline replacement projects in the Sacramento District service area, including approximately six miles of water distribution improvements ranging in size from 12 to 24 inches in diameter.

GRANT EXPERIENCE

Proposition 50 Grant Planning and Management Support – Regional Water Authority, Sacramento, CA. Project manager for the planning and management support for RWA's Proposition 50 grant agreement. RWA's grant agreement in the amount of \$25,000,000 was to provide partial funding for 14 projects within their area of influence. Includes correspondence with 14 different agencies to provide quarterly reports and project closeout reports.

USDA Grant Application West Point WTP Clearwell – Calaveras County Water District, San Andreas, CA. Project manager for the development of the engineers report and environmental documentation to support the District's USDA grant application.

USDA Grant Application West Point Downtown Main Improvements – Calaveras County Water District, San Andreas, CA. Project manager for the development of the engineers report and environmental documentation to support the District’s USDA grant application.

USDA Grant Application Bummerville Water Storage Tank – Calaveras County Water District, San Andreas, CA. Project manager for the development of the engineers report and environmental documentation to support the District’s USDA grant application.

USDA Grant Application Wilson Lake Reservoir Improvements – Calaveras County Water District, San Andreas, CA. Project manager for the development of the engineers report and environmental documentation to support the District’s USDA grant application.

USDA Grant Application Bear Creek Raw Water Pipeline – Calaveras County Water District, San Andreas, CA. Project manager for the development of the engineers report and environmental documentation to support the District’s USDA grant application.

WASTEWATER PIPELINES

Upper Northwest Interceptor Section 9 (UNWI 9) and Associated Northeast Area Relief Sewer Projects - Sacramento Regional County Sanitation District and County Sanitation District 1, Citrus Heights, CA. Assistant project manager for preliminary design, final design, easement, and property acquisition, surveying and mapping, permitting, environmental support, public outreach, bid and award services, engineering services during construction, and operations and maintenance (O&M) startup services for Upper Northwest Interceptor Section 9 (UNWI 9) and associated Northeast Area (NEA) relief sewer projects. UNWI 9 consists of approximately 15,100 linear feet (LF) of 30- and 36-inch-diameter interceptor located in a highly developed residential/retail/commercial area and at an invert depth varying between 10 and 30 feet. Also included are two diversion structures on Old Auburn Road: NEA-13 intercepts flows from an existing 15-inch-diameter sewer main, and NEA-14 intercepts flows from the NEA-1 and NEA-2 projects. NEA-1 projects included the new 10 mgd Oak Avenue Pumping Station, 2,700 LF of 24-inch-diameter force main, 10,500 LF of 30-inch-diameter gravity pipes located near Oak Avenue and Hazel Avenue. NEA-8 Beech/Oak Sewer Diversion includes about 1,400 LF of 8-inch-diameter sewer pipe, which diverts flows from a 6-inch-diameter sewer line to the new Oak Avenue Pumping Station. Located near Old Auburn Road and Robert Court, NEA-2 includes the new 6.2 mgd Old Auburn Pumping Station, about 5,500 LF of new sewer relief pipes ranging in size from 16 to 24 inches in diameter, and diversion pipe to the pumping station.

North Stockton Pipeline Design-Build - City of Stockton, CA. Project manager for planning, predesign, design, and construction management of a five-mile alignment of two parallel pipelines, including a 24- to 42-inch-diameter sewer interceptor and a 30-inch-diameter potable water transmission main. The alignment traversed undeveloped agricultural lands, requiring extensive coordination with the city’s planning, transportation, municipal utilities, and public works divisions and departments to identify alignment of future roadways to contain the pipelines. The pipelines also included six crossings utilizing trenchless technologies (two railroad crossings, two creek crossings, and a canal crossing). In addition to traditional planning and design, the work included identifying permanent and temporary construction easements, developing plat maps and legal descriptions of easements, a financing plan, a master plan amendment, a project environmental impact report, coordination of public outreach, and securing of permits or agreements with the State Reclamation Board, San Joaquin Multiple Species Conservation Plan, San Joaquin County, City of Stockton, Union Pacific Railroad, Department of Fish & Game, U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service, and Regional Water Quality Control Board.

Comstock Drive Sewer Improvements and Bidwell Street Water Line Replacement - City of Folsom, CA. Project manager for predesign, design, bidding, and construction engineering services for the Comstock Drive sewer improvements (1,600 linear feet of 6- to 18-inch-diameter sewer lines) and Bidwell Street water line replacement (3,700 linear feet of 10-inch-diameter water line) projects. A common set of plans was developed for both projects to include the additional of odor control measures for the Comstock Drive sewer improvements.

Stock Ranch Peak Flow Mitigation Facility - Sacramento Regional County Sanitation District, Citrus Heights, CA. Project manager for predesign and design of new flow mitigation facilities to attenuate peak flows and prevent wet weather overflow on the county's existing collection system. Facilities included a below-ground 700,000-gallon off-stream peak storage facility with automatic hydraulic flushing system to clean the tank after each major event, flow diversion structure with side-overflow weir to divert excess flow to the storage facility, 400 linear feet of 18-inch-diameter gravity sewer line to convey the diverted flow from the diversion structure to the storage facility, 1.58 mgd return flow pumping station, 300 linear feet of 10-inch-diameter force main to discharge return flows, and activated carbon odor control system.

Country Club Trunk Sewer - City of Stockton, CA. Project manager for planning, preliminary design, design, and construction of approximately two miles of 8- to 48-inch-diameter sewer interceptor. Developed design-build plans and specifications. Design included connection to existing wastewater collection structure for the downstream pumping station. Provided hydraulic models to size interceptor and identify bypass flows to facilitate construction. Project included one trenchless crossing (bore and jack crossing of Interstate 5).

Washington Street/Visalia Court Sewer Main - City of Stockton, CA. Project manager for predesign and design of 500 linear feet (LF) of new 8-inch-diameter sewer main within Washington Street and Visalia Court.

Upper Northwest Interceptor Sections 7 & 8 - Sacramento County, Citrus Heights, CA. Provided engineering services during construction of sewer pipelines. Project included more than 3,000 linear feet (LF) of 36-, 48-, and 54-inch-diameter open cut gravity sewer pipes; 2,854 LF of trenchless 48-inch-diameter pipe; 9,453 LF of dual 32-inch-diameter force main; and 2,910 LF of trenchless dual 32-inch-diameter force mains.

Sanitary Sewer Management Plan (SSMP) and CMOM Compliance - City of Folsom, CA. Project manager for on-call contract to provide engineering consulting services for the development and management of the city's Sanitary Sewer Management Plan (SSMP), and to assist the city with compliance with the Regional Water Quality Control Board's (RWQCB's) capacity management, operations, and maintenance (CMOM) requirements. Performed a study that evaluated options for providing odor control in affected areas. A sampling plan was developed, which involved continuous air phase sampling at locations along the sewer that were determined to cause hydrogen sulfide/VOC stripping or ventilation problems that lead to foul air emissions. Also recommended language revisions to the city's ordinance that relates to sewers, provided clarification and technical information to the city's attorney during development of final language to be included in the ordinance, and presented in the city's council meeting.

Central Stockton Collection System Master Plan - City of Stockton, CA. Project manager to update of the city's collection system master plan, which serves a population of approximately 250,000.

East Stockton Sewer Collection System 4 Analysis - San Joaquin County, Stockton, CA. Project manager for hydraulic analysis and modeling of the sewer collection system 4 area.

Upper Penitencia Creek Bypass/Inverted Siphon - Santa Clara Valley Water District, CA. Designed inverted siphon for 30-inch-diameter sewer main to avoid elevation

conflicts with proposed Upper Penitencia Creek bypass structure. Coordinated design efforts with multiple agencies, including the City of San Jose.

Gianone Park Sewer Capacity Study - San Joaquin County, Stockton, CA. Project manager for sewer capacity assessment of the proposed Gianone Park Affordable Housing Plan, which covers 34 small single family home lots. Project included hydraulic analysis and modeling update, and preparation of a preliminary report on capacity analysis.

WASTEWATER PLANNING

Facility Master and Financial Plans - Calaveras County Water District, San Andreas, CA. Project manager for development of financial master plans for the water and sewer systems, and facility master plans for the Jenny Lind Water Treatment Plant, Arnold Sewer Plant, West Point Sewer Plant, and West Point/Wilseyville water system.

La Contenta System H₂O Map Sewer Modeling - Calaveras County Water District, San Andreas, CA, 2008. Developed wastewater model from system maps and as-built drawings using H₂O Map Sewer.

Banner Island Sewer Impact Assessment - City of Stockton, CA. Project manager for assessment of the impacts of the proposed Banner Island Project to determine if the city's sewer collection system has adequate capacity or require sewer system improvements to serve the proposed development. The city's sewer system hydraulic model was updated with the additional survey data and land use provided by the City to simulate the hydraulic conditions for various flow conditions and land use scenarios.

Third-Party Sewer Collection System 4 Analysis - San Joaquin County, CA. Performed a third-party evaluation and hydraulic modeling to confirm the analysis performed by another firm associated with the impacts of connecting the Wilhelmina Henry Elementary School to the Sewer Collection System 4 service area.

PIPELINE TUNNELING

UPRR Pipeline Crossings - Union Pacific Railroad (UPRR), Barstow, CA. Designed and inspected three pressurized pipeline crossings. Acquired agreements with UPRR for all three crossings.

Highway 99 Pipeline Crossing - Sacramento County, CA. Provided construction management and inspection services for approximately 400 feet of pipeline crossing near the Florin Road exit of Highway 99. Acquired permits from Caltrans.

Interstate 50 Pipeline Crossing - Sacramento County, CA. Provided design and construction management and inspection services for approximately 350 feet of pipeline crossing between Mather Field and Zinfandel exits of Interstate 50 freeway. Acquired permits from Caltrans.

Interstate 5 Pipeline Crossing - City of Stockton, CA. Attended coordination meetings with Caltrans for preliminary design of approximately 400 feet of pipeline crossing for a 48-inch-diameter sewer interceptor.

Light Rail Pipeline Crossing - Sacramento Regional Transit District, Sacramento, CA. Provided design, construction management, and inspection for approximately 80-foot pipeline crossing near the intersection of Mather Field and Folsom Boulevard.

Bear Creek Pipeline Crossing - City of Stockton, CA. Provided preliminary design of approximately 400 feet of pipeline crossing for a 36-inch-diameter sewer interceptor. Acquired all necessary permits.

Mosher Slough Pipeline Crossing - City of Stockton, CA. Provided preliminary design of approximately 300 feet of pipeline crossing for a 24-inch-diameter sewer interceptor. Acquired all necessary permits.

SCADA AND TELEMETRY

Montara District SCADA System - California American Water, Sacramento, CA. Designed and implemented a SCADA system for the Montara District water system, which utilizes OPTO 22 RTUs in conjunction with Intellutions MMI software. The system automated the operation of the district's six largest water supply sources and provided continuous monitoring and alarming.

Telemetry and SCADA Systems in Sacramento County - California American Water, Sacramento, CA. Project manager for the integration of telemetry and SCADA at 18 facilities located within Sacramento County.

Coastal Water System Automation - California American Water, Sacramento, CA. Designed control strategy, communication plan, and system integration for the automation of an antiquated water system located amongst the challenging hills of California's Pacific Coastline.

Redwood Forest Water Treatment Plant SCADA System - California American Water, Sacramento, CA. Designed a SCADA system that allowed for remote operation of a water treatment plant within the redwood forests of Santa Cruz County.

SCADA System Improvements - California American Water, Sacramento, CA. Project manager and designer for improvements to an existing SCADA system to improve operator involvement.

MISCELLANEOUS

Chlorinator Installation at Well 5 - Sacramento Suburban Water District, CA. Project manager for the installation of a tablet chlorinator. Provided design support for the project

Walton Area Arsenic Improvements - City of Yuba City, Yuba City, CA. Provided technical review and guidance for the City's efforts to address the elevated arsenic levels in their Walton service area. Reviewed and provided technical evaluations of multiple alternatives including providing surface water, treating existing groundwater wells and blending. Assisted the City with several public meetings to present the technical issues and discuss funding options including the development of an assessment district.

Lincoln Metering and Hydroelectric Project - Placer County Water Agency. Project manager for the inspection of the construction of the Lincoln Metering and Hydroelectric Station. Provided general and specialty inspection throughout the process of the construction for civil, structural, and electrical services.

Development Projects - California American Water, Sacramento, CA. Project manager for design and construction of several new development projects, including a 1,000-unit subdivision within Placer County. This project required the wheeling of surface water from Placer County Water Agency and the City of Roseville. Reviewed and approved project plans and hydraulic models. Assisted developers in acquiring permits.

Generator Procurement Project - California American Water, Sacramento, CA. Project manager for the procurement of four new generators for Cal Am's emergency generator program. The four generators, two diesel generators and two natural gas generators, are to be distributed to locations according to the generator report master plan. They are placed in order to increase the output of each water system, ensure hydraulic distribution, and to meet air quality requirements.

Hannah Dunrud



EXPERIENCE

Hannah is an accomplished professional with over nine years of operational, project management, and supervisory experience in the water industry. She has specialized in municipal drinking water production and distribution, including water storage tanks, groundwater wells, booster pump stations, and pressure reduction stations. Her background includes managing water production projects and maintaining regulatory compliance, with a focus on asset management and water quality. Project experience includes:

WATER RESOURCES

Production Superintendent for Sacramento Suburban Water District - Sacramento, CA. Managed production facility operations and maintenance, including 71 groundwater wells and six water storage tanks. Provided long-term planning and emergency response to ensure a high quality, uninterrupted drinking water supply for 194,000 people. Led the Production Department, including 11 staff and a \$6M budget. Oversaw preventive maintenance, repairs, and replacement for approximately 1,300 production assets (including motors, hydro-pneumatic tanks, generators, chemical feed systems, etc.) Directed capital improvement project design and implementation for new and existing production facilities through collaboration with internal and external engineers to ensure operational functionality and regulatory compliance. Accurately and concisely presented data and communicated technical information to the Board of Directors and stakeholder organizations at public meetings and other events. Led a SCADA Asset Management Plan project by working with internal stakeholders and external consultants, within Board schedule and budget. Coordinated with state and local regulatory agency representatives.

Production Foreman - Sacramento Suburban Water District - Recruited, mentored, trained, and supervised Production staff. Regularly used SCADA, CMMS, GIS-based tools, and other data sources for regulatory reporting, data requests, and asset management. Performed field inspections to assess the condition of production facilities. Executed an unprecedented project to support another drinking water agency in rehabilitating its 62-MG drinking water reservoir by developing SCADA/PLC programming improvements, performing operational testing, and training staff for emergency preparation. Successfully developed and tested improvements to re-design a previously inoperable 10,000-gpm pump station by leading a team of engineers, programmers, and operations staff.

Environmental Compliance Technician – Sacramento Suburban Water District Interpreted state, federal, and local government regulations pertaining to drinking water, storm water, and air quality, as well as hazardous materials and waste handling. Prepared regulatory reports and correspondence to maintain compliance. Implemented a successful new backflow prevention assembly testing program, including developing a new software system with programmers then providing training to internal and external stakeholders. Provided environmental compliance training to staff and led water quality investigations in the field.

WATER STORAGE AND PUMPING

El Dorado Main #2 (EDM2) Condition Assessment – El Dorado Irrigation District (EID). Assisting with a condition assessment of EDM2 including its pipe and appurtenances including both external and internal inspection of the pipeline. PBI is performing a desktop risk-based condition assessment of the District EDM2 Main. The evaluation will utilize the likelihood of failure (LOF) in conjunction with the consequence of failure (COF) to develop a risk ranking for the assets. The purpose of the assessment is to determine what sections should be scheduled in a Capital

Education

B.S. Environmental Sciences
Oregon State University, 2019
Specialization: Environmental
Water Resources

Certifications

SWRCB – Drinking Water
Distribution Operator Grade 3

SWRCB – Drinking Water
Treatment Operator Grade 3

Specialized Training

Association of California Water
Agencies Joint Powers
Insurance Authority:
Professional Development
Program

Claire Laughlin Consulting: LX
Evolve Leadership

Improvement Project (CIP) over the coming years to be repaired or replaced, and to determine the remaining lifecycle of the pipeline.

Walnut Tank Project – Sacramento Suburban Water District (SSWD). Project manager providing condition assessment of the 125,000 gallon Walnut elevated water storage tank. The purpose of the condition assessment is to provide a detailed evaluation of the exterior and interior coatings of the tank. This report will include recommendations for spot repairs of the coating during the next maintenance interval and retrofit/strengthening to accommodate the overstressed members and connections. The exterior observations were made from the catwalk and roof levels. The interior inspection was conducted by a certified diver using special underwater diving equipment and techniques.

Flow Control Facilities Rehabilitation Project – City of Folsom Assisting with the design for the rehabilitation of eight PRV stations within the City’s service area. The City’s PRVs have historically been installed underground, requiring workers to enter vaults to access the PRVs. The underground PRVs present safety, operational, and accessibility issues during routine maintenance and emergencies. Therefore, the City has initiated a rehabilitation project to relocate the PRVs aboveground. The City also plans to add a new aboveground emergency connection PRV and abandon an existing PRV that is no longer needed.

Copper Cove Water System Improvements – Calaveras County Water District (CCWD) – Project manager assisting with the design of a new, second clearwell near an existing clearwell. The new clearwell will be equipped with cathodic protection. Providing design for new .5 MG steel tank to replace an existing .3MG redwood tank. The steel tank will be equipped with cathodic protection. Providing assessment of .78 MG steel tank and identifying improvements needed along with associated costs.

Capehart Tank Structural Analysis and Condition Assessment – Sacramento Suburban Water District (SSWD). Provided a technical memorandum summarizing the peer review of the Capehart Tank structural analysis to determine if the reservoir meets current code requirements. Provided recommendations for rehabilitation of the 150,000 gallon elevated water storage tank to improve structural components of the reservoir. The condition assessment was done to provide a detailed reservoir evaluation of the interior (lining), exterior (paint) coatings, etc. Findings were summarized in a report including rehabilitation recommendations and preliminary cost estimates for improvements.

Design and CM for Operational Improvements to the Enterprise/Northrop Reservoir and Booster Pump Station Facility SSWD. Provided design services to implement recommended improvements from an earlier effort to develop an Operations Plan for the Enterprise-Northrop Reservoir and Booster Pump Station. Improvements include: providing an Operating Scenario Selector switch, Resizing the Sodium Hypochlorite Metering Pumps, Adding new interlocks for the Reservoir Fill Valves, Modifying Booster Pump Station control and interlocks, Incorporating City pipeline flush into the control system, Providing reservoir turnover control during Groundwater Transfer to City scenario, Repairing electrical connections between City Supply MOV and PLC panel. Design documents include draft and final design plans, specifications, and engineer’s cost estimate. Project includes bid assistance and construction management.

Pump Outfalls Replacement Project - City of Sacramento, CA. Project manager providing condition assessment of outfalls for seven drainage sump station facilities for deterioration, structural failure, corrosion, or need for repair and/or replacement. Prepared pre-design report of recommended repairs and improvements including costs of those repairs and replacements. Developing plans, specifications, and cost estimates for pump outfall replacements at eight pump stations. Project includes

Hannah Dunrud



survey, CEQA/NEPA compliance, and Water Pollution Control Plan. Project includes bidding and construction management services.



Education

B.S., Chemical Engineering,
University of California, Davis,
1984

Registration

Professional Civil Engineer -
California No. C054419, 1995

Specializations

AutoCAD Civil 3D
ESRI ArcGIS
HEC-GeoRAS
HEC-GeoHMS
FLO-2D
H2OMap Water
H2OMap Sewer
WaterCAD
LP360

Affiliations

American Water Works
Association

EXPERIENCE

Mr. Murbach has more than 25 years of experience in the planning and design of domestic water, water reclamation, industrial wastewater, and municipal wastewater treatment systems. His experience includes serving as both project manager and project engineer on projects ranging from water quality studies to preliminary and detailed facility design. His particular areas of expertise include water treatment process design, distribution pump station and pipeline design, disinfection of water and wastewater, chemical feed, and storage systems, and drinking water regulations. Project experience includes:

WATER STORAGE

Water Supply Project – Northern California Tribe. The first task for this project was the preliminary and 30% design of a floating intake and approximately 1.2 miles of water transmission main. The preliminary design report confirmed design criteria and identified recommended improvements. The 30% design was completed and a construction cost estimate was provided to the Tribe for the proposed improvements. Project includes the design of a 30,000 gallon/day water treatment plant, two water storage reservoirs (approximately 500,000 gallons each), one break tank, and one clearwell. The sizing of these facilities will be based on updated water demands and allow for the preparation of a preliminary design report to determine the design criteria for this project. Additionally, PBI will investigate the viability of pumping groundwater to the Tribal property in order to meet its immediate needs for drinking and fire suppression water until the planned Water Supply Project becomes on-line. An assessment will be made of the viability of utilizing the Tribe's existing wells and if necessary, design, permit, and locate additional wells including recommending the location for drilling additional wells and integrating the new wells into the existing water distribution system. An assessment will also be made of the general condition, water quality, and capacity of existing wells. Project includes permitting support for new and/or refurbished wells.

Cimarron Tank – City of Folsom, CA. Provided design, construction management services, and specialty inspection services for the rehabilitation of a 3MG welded steel tank. Project included seismic retrofit, new wrapped stairway, and recoating efforts for 3MG welded steel tank.

La Collina Pump Station and Tank Replacement – City of Folsom, CA. Project manager for the design of the replacement of the water storage tank at the La Collina pump station. Construction manager for the replacement of the tank, and ancillary improvements to the tank. Duty pumps were appropriately sized for projected demand, fire pump capability was assessed, and a hydropneumatic tank was sized to prevent excessive pump cycling.

Reservoir 1 Rehabilitation Design, City of Folsom, CA, 2014-15. Rehabilitation of a 1M gallon water storage tank which included recoating, corrosion protection system replacement, installation of expansion joints on pipes connected to the tank as well as other repairs. PBI provided design services and cost estimation for the tank rehabilitation and engineering support during construction.

Coastside County Water District Tank Rehabilitation Projects – Coastside County Water District, Halfmoon Bay, CA. Provided design and construction management services for improvements to three existing welded steel water storage reservoirs. Improvements included ladders, hand railings, catwalks, and coating

1 MG Tank Design and Construction – Foresthill PUD, Foresthill, CA. Project manager and construction manager for the design and construction of a 1 MG welded steel storage tank and a 20" bypass pipeline at the Foresthill WTP. PBI provided

construction oversight and on-sight inspection services, throughout the construction process.

Bowman and Alta Water Treatment Plants Backwash Storage Tanks Construction – Placer County Water Agency (PCWA), Auburn, CA. Construction Manger. Provided construction management services, specialty inspection services, and engineering services during construction for the construction of two new 100,000-gallon welded steel tanks at two separate water treatment facilities for PCWA. Work included the recoating efforts for a IMG welded steel tank and a 100,000-gallon welded steel tank.

Retention Basin Outfall Improvements - Port of Stockton, Stockton, CA. Flow exiting outfall pipes had caused significant erosion to occur beneath the spillway, causing loss of supporting soils and resulting in the concrete to sag and break apart. There was a concern that further erosion may occur, compromising the levee's integrity and posing a risk for levee failure. PBI designed repairs to the pump outfall such that the integrity of the levee is returned to pre-erosion conditions and maintained for the future. Developed a pre-design report as well as comprehensive plans and specifications for the construction of the proposed repairs. Project included bidding support services.

Gold Village Drought Resiliency Project –Yuba County. Project Manager who provided well investigation and testing of four wells. Developed a feasibility study to assess the ability to provide a new, sustainable source of water to supplement the existing groundwater sources. Designed a new 37' diameter by 35' tall potable water tank with a useable volume of approximately 255,000 gallons. Design included site grading, drainage, electrical, SCADA, pipework and appurtenances, foundation, access road improvement, fencing, paved parking area, and obtaining all required permits.

WATER TREATMENT PLANTS

West Point Water System Supply Reliability Project – Calaveras County Water District, San Andreas, CA. Raw water is treated at the West Point Water Treatment Plant (WTP) by a single train Microfloc/Trident clarifier-filter unit that was originally manufactured in 1994 and installed in 2001. The Trident unit is the District's only usable means of providing treatment at this time and is at risk in the event of a mechanical failure. The District is equipping the existing facility with a new parallel treatment system to provide reliability and redundancy. PBI is designing the second treatment unit, including all necessary site work, demolition, modifications to the existing metal building and/or other structures, construction of associated piping, valves, pumps, tanks, chemical systems, SCADA, electrical and instrumentation.

Operations Plans for four water treatment plants: Jenny Lind WTP, Copper Cove WTP, Hunters WTP, and West Point WTP – Calaveras County Water District (CCWD), San Andreas, CA. PBI provided engineering services to prepare the water treatment plant operations plans for four of the District's water treatment plants. Plans were prepared in accordance with the Department of Health Services and submitted to the California Department of Public Health. Plans included documentation of treatment plant processes, regulatory reporting requirements, and optimization of plant operation.

Bowman Water Treatment Plant Residuals Handling Improvements - Placer County Water Agency, Auburn, CA. Project engineer for construction engineering services for: (1) Deskins drying beds and (2) 100,000 gallon equalization tank. Work included review of submittal including Contractor's Storm Water Pollution Plan (SWPPP) as well as implementation of the SWPPP at the construction site.

Buckhorn Water Treatment Plant Disinfection Byproduct Improvements Project – Amador Water Agency (AWA), Sutter Creek, CA. Project Manager for engineering design services to provide separation of the inlet and outlet at Tank A to reduce water age in the tank and add ACH feed and storage system for coagulation addition and to improve. Generated alternatives analysis to develop plans for installation of plate settlers

in combination with the installation of drying beds. Project included construction management and inspection services.

Ione Water Treatment Plant Expansion Project – Amador Water Agency (AWA), Sutter Creek, CA. Project Manager responsible for preparing alternatives evaluation for expansion of water treatment plant. Project included developing plans and specifications to expand the packaged water treatment plant capacity from 4mgd to 6mgd. Provided engineering services during bidding and construction

Surface Water Treatment Facility - City of Lodi, CA. Provided engineering and related services associated with conceptual design and feasibility evaluation of alternatives for a nominal 12 mgd surface water treatment plant and its associated facilities, which included 6-, 8-, 10-, 12-, and 14-inch-diameter water mains; two water storage tanks; and 26 non-treated groundwater wells. Evaluated the feasibility of locating new surface water treatment facilities at four potential sites. Treatment technologies were evaluated based on surface water quality, capital construction costs, expandability, annual operations costs, and life-cycle costs. Responsible for investigation of capital financing and annual operations financing strategies.

Yuba City Water Treatment Plant Expansion to 85 mgd - City of Yuba City, CA. Project engineer for the \$21 million expansion of the 24 mgd water treatment plant to 30 mgd (Phase I), and then to 48 mgd (with expansion capability for 65 mgd at total buildout) during Phase II. Responsible for predesign and design of chemical feed system and chlorine disinfection modifications, and four new membranes to increase plant hydraulic capacity to 48 mgd. Alternative disinfection methods were investigated, which included chlorine, hypochlorite, chlorine dioxide, ultraviolet (UV) light irradiation, chloramines, and ozone. Selected disinfectant is chlorine gas with a dry media scrubber to protect the public.

Bryte Bend Water Treatment Plant Expansion - City of West Sacramento, CA. Assistant project manager for preliminary evaluations and design of the Bryte Bend Water Treatment Plant expansion from 24 to 60 mgd. Improvements included 36-inch-diameter water main, vertical turbine pumping station, parallel 42-inch-diameter raw water pipeline, ACTIFLO raw water clarification system, conventional filtration system, two 4 million gallon (MG) clearwell tanks, low lift pumping station, chemical storage and feed system, disinfection system modifications, conversion of the sedimentation basins to washwater recovery basins, new washwater recovery pumping station, operations building/lab improvements, and electrical and plant control system. Chemical used included alum, coagulant polymer, polyaluminum chloride (PACl), filter aid polymer, zinc orthophosphate, and caustic (for pH control). The chlorine facility was expanded and upgraded to include leak neutralization system (including dry chlorine gas scrubber, ventilation modifications, emergency alarms, chlorine monitoring equipment, and standby power), chemical room modifications to store additional chlorine cylinders and an overhead monorail to move cylinders, additional manifold cylinders, cylinder-mounted vacuum regulators with automatic isolation valves that close when high ambient chlorine levels are detected, smoke detectors and fire sprinklers in chlorine storage rooms, continuous ventilations with emergency shut-off switch and leak detector activated shut-off system, standby power system for leak detection system, alarm system, ventilations system, chlorine gas scrubber system, and seismic protection required for equipment. To improve plant reliability, design of the caustic and zinc orthophosphate was moved ahead of the remaining improvements at the Bryte Bend Water Treatment Plant. Construction of the chemical storage and feed facilities was completed within 10 months of the start of the design.

Yucaipa Valley Regional Water Filtration Facility - Yucaipa Valley Water District, Yucaipa, CA. Designed disinfection system using sodium hypochlorite for the new \$22 million Yucaipa Valley Regional Water Filtration Facility, which was a microfiltration facility (with provisions to add nanofiltration equipment) located on a 32-acre site, with an initial capacity of 12 mgd and an ultimate capacity of 36 mgd. Design was completed

in just nine months to facilitate construction of the new water treatment facility. Improvements included new sulfuric acid storage and feed system to reduce pH prior to the nanofiltration system.

Water Treatment Plant Expansion (Membrane) - Rancho Murieta Community Services District, Rancho Murieta, CA. Provided predesign and design of improvements to expand the district's water treatment plant from 3.5 mgd to 7.0 mgd to increase the maximum day capacity. Improvements included conversion of existing filter basin (filter building lower level) and backwash waste basin to chlorine contact basins, and chlorination system modifications to expand its capacity and bring the system into compliance with current building and fire codes.

Parkway Fluoridation Treatment System - California-American Water Company, Sacramento, CA. Project manager for design, bidding, and construction of new fluoridation treatment systems serving the Parkway water system, which included 10 wells, three water treatment plants, and a water pumping station. Liquid (hydrofluosilicic acid {HFA}) feed, saturator, and dry feeder fluoridation systems were evaluated. A liquid system was selected for based on the lower capital and operational cost, reduced chemical handling, and reduced operational problems. The HFA system consists of a 50-gallon double-contained tank and a metering pump located within a fiberglass enclosure. The tank is on a weigh-scale to provide inventory control via SCADA. The pH control system improvements included replacement of an existing lime system with caustic storage and feed facilities. Metering pumps are pH controlled to provide a constant treated water pH.

Northeast 30 mgd Surface Water Treatment Plant - City of Fresno, CA. Assistant project manager during design and construction of process and treated water facilities for the new 30 mgd surface water treatment plant. Raw water facilities included a new intake, pipeline, and pumping station. Process facilities included flashmix, ACTIFLO clarification, and filter backwash handling. Treated water facilities included clearwell, high service pumping station, distribution system piping, and off-site pressure sustaining valve stations.

Jenny Lind Disinfection By-Product (DBP) Study - Calaveras County Water District, San Andreas, CA. Performed a study for the Jenny Lind water treatment and distribution system to identify improvements for reducing the high levels of haloacetic acids (HAA), while maintaining the current level of pathogen removal.

Finished Water Pumping Station - Stockton East Water District, Stockton, CA. Provided quality assurance/quality control (QA/QC) for predesign of a new 50 mgd finished water pumping station at the water treatment plant, which included a 48- to 54-inch-diameter pipeline that supplies water to California Water Service Company or the City of Stockton's service areas. The finished water pumping station included eight pumps, four of which are powered by 300 horsepower (hp) and 4,160 V electrical motors and the other four pumps are powered by diesel engines rated at 290 to 325 hp.

Yuba City Water Treatment Plant Regulatory Compliance Improvements - City of Yuba City, CA. Designed improvements to bring the water treatment plant chlorine feed system into compliance with current safety and fire codes, which included a leak neutralization scrubber. Project also included a new city-wide fluoridation system.

Foothill Water Treatment Plant Expansion - Placer County Water Agency, Auburn, CA. Provided design and construction engineering services for the Foothill Water Treatment Plant expansion to 60 mgd, which included chlorine gas system modifications and new chemical feed facility to bring the chlorine facilities into compliance with the Uniform Fire Code (UFC) requirements for toxic compressed gases. The new chemical building houses soda ash, PAC, polymer, alum, fluoride, and hydrated lime feed and storage equipment.

Water Filtration Plant Improvements - City of Kennewick, WA. Provided quality assurance/quality control (QA/QC) for the design of disinfection improvements to expand the 7.5 mgd water filtration plant to 15 mgd. Project included fitting membranes in the

existing filter basins, replacing the chlorine gas disinfection system with bulk sodium hypochlorite, adding powdered activated carbon (PAC) and permanganate for seasonal taste and odor control, adding a new rapid mix basin, converting the ozone contact basin into first-stage flocculation basin, and converting the first third of the sedimentation basin into a third stage flocculation basin.

Gauntlett/Fitch Membrane Water Treatment Plant - City of Healdsburg, CA. Assisted with design of the city's new 2.6 mgd (4.5 mgd ultimate) Gauntlett/Fitch Water Treatment Facility, which utilizes low-pressure membrane treatment.

Pretreatment Evaluation - City of Folsom, CA. Performed alternatives analysis for increasing the capacity of pretreatment for the water treatment plant. Comparisons were made between contact clarification and conventional flocculation/sedimentation. Work also included retrofitting Hardinge filters to meet Surface Water Treatment Rule (SWTR) requirements.

Regional Surface Water Supply Project - Turlock Irrigation District. Senior Engineer for the \$240 million pump station, water treatment plant and transmission system. Project included coordination with TID staff, design engineer, six design-build teams and four member cities that will eventually purchase the treated water from TID. Responsible for facility sizing, document review, permitting, design-build proposal development and workshops, bidding services and finance planning.

Tracer Study - Westpac Utilities, CA. Performed sodium fluoride tracer study and prepared design layout for the expansion of the Hunter Creek Water Treatment Plant chlorine contact chamber. Study determined the effective detention time (T_{10}) of the basin and provided a basis for the size of the expansion.

Zone 3 WTP Discharge Elimination Project – Placer County Water Agency. Provided project management services for the planning and design of improvements at four different water treatment plants: Alta, Colfax, Monte Vista, and Applegate. Performed alternative analysis for solids removal of membrane backwash water and on-site disposal. Design included two welded steel backwash storage tanks, two cone bottom steel settling tanks, miscellaneous pipeline improvements, and electrical and SCADA improvements. For Alta WTP: New sump, pump, piping, and level controls to intercept 1,440 gpd of instrument water and return to backwash discharge pipe, with appropriate check valve(s). One new 45,000 gal above-ground steel settling tank. For Applegate WTP: New sump, pump, piping, and level controls to intercept 1,440 gpd instrument water and return to backwash discharge pipe, with appropriate check valve(s). Deskins Drying Bed. For Colfax WTP: New 85,000 gal above-ground steel settling tank. RWQCB (NPDES) and DHS (Operating Permit) Permit assistance. For Monte Vista WTP: New sump, pump, piping, and level controls to intercept 1,440 gpd instrument water and return to backwash discharge pipe, with appropriate check valve(s). New 6,000 gal HDPE backwash and filter to waste settling tank.

Feasibility Study for Water Treatment Facility – Port of Stockton. Researched the concept of building a water treatment plan for the Port of Stockton region. Studied water demand, storage, and distribution data for the region. Estimated the requirements and costs associated with the facility and presented information helping to dictate the feasibility of the plant.

WATER DISTRIBUTION AND PIPELINES

Highway 20 Pipeline Infrastructure Realignment Project – Browns Valley Irrigation District (BVID), Browns Valley, CA. PBI developed plans and specifications for the relocation of approximately 5,620 feet of pipeline including three Highway 20 crossings. The new HDPE pipeline was designed to replace those impacted by the Highway 20 realignment. Project included the development of traffic control plans, assistance with bidding, and providing engineering support during construction. Prepared As-built drawings.

Sicard Pipeline Project – Browns Valley Irrigation District (BVID), Browns Valley, CA. The objective of the project was to pipe approximately 10 miles of an open ditch system (Sicard Flat Ditch) to eliminate water loss from the ditch and improve service to customers. PBI developed a planning study to determine build out pipeline sizing and to identify preferred alignments. The project was broken up into 6 phases and included a detailed construction sequencing plan as the construction had to occur during limited windows between October and April to avoid impacting the seasonal irrigation demands. The design included plan and profile design sheets and specifications for the construction of approximately 9.6 miles of new 48” to 24” pipeline. The alignment included cross country, dirt roads, county roads and the existing ditch.

Arden Intertie and Booster Pump Station Project - California American Water, Sacramento, CA. Provided design services for intertie with Cal Am and City of Sacramento with a booster pump station in Cal Am’s Arden system. Included coordination with City of Sacramento Dept. of Utilities for communication and control of flow meter. Project included development of plans, specs, and cost estimate. Included support during construction and start up.

Elverta Road Bridge Main Replacement, (Antelope System) - California American Water, Sacramento, CA. Project manager for preparation of a basis of design report (BODR) for the Elverta Road Bridge Main replacement project, which involved removal and replacement of approximately 280 lineal feet (LF) of 12-in-diameter water main attached to the Elverta Road Bridge.

Crestridge Lane Pipeline Replacement – City of Folsom, Folsom, CA, 2014. Developed plans and specifications of a new water pipeline that will replace a privately owned pipeline serving approximately 40 homes in a community built on a single parcel. Design included installing individual water meters at each home which were originally served through one meter at the bottom of the parcel. Construction manager for the replacement of this pipeline.

Easton Booster Pump Station & Pressure Reducing Stations – City of Folsom, CA, 2014. Developed plans and specifications for three elements necessary to support the future Aerojet developments of Easton Place, Glenborrow and possibly others. The recommended improvements for the project included: a Booster pump station to supply water from the City’s Pressure Zone 1 to the Glenborough Project as well as providing fire flow and two PRV Stations. Project included utility coordination, environmental services and bid support service.

Golden State Water Intertie Pump Station and Pipeline – City of Folsom. Project manager for the feasibility study, design, and installation of 1,800 feet of pipe to connect Intertie pump station with the City of Folsom system. Required the coordination of Folsom, Easton, and intertie pump stations designed to tie the utilities of each together into the City of Folsom water system. Managed the whole process, including feasibility studies, designs, and as build designs.

Oak Avenue Parallel Pipeline Project – City of Folsom, CA. Providing design services to eliminate the need for emergency storage at the Oak Avenue pump station and would like to divert flow through a parallel pipeline. Project design includes the development of plans and specifications for the construction of the Oak Avenue Parallel Pipeline. Project includes coordination of survey, right of way, and environmental services. Project will also include bid support and construction support services.

Relocation of Water Lines for the I-80 Auxiliary Lanes Project – City of Roseville, CA. The I-80 Auxiliary Lanes Project has three storm drain crossings that conflict with the City’s distribution water mains that will require relocation. PBI is developed the relocation plans for three conflicting water lines so they could be incorporated into the Caltrans contract documents for I-80 auxiliary lanes project.

Pump Outfalls Replacement Project - City of Sacramento, CA. Providing condition assessment of outfalls for seven drainage sump station facilities for deterioration,

structural failure, corrosion, or need for repair and/or replacement. Prepared pre-design report of recommended repairs and improvements including costs of those repairs and replacements. Developing plans, specifications, and cost estimates for pump outfall replacements at eight pump stations. Project includes survey, CEQA/NEPA compliance, and Water Pollution Control Plan. Project includes bidding and construction management services.

High Lift Pumps Station Improvements – City of Yuba City, Yuba City, CA. Project manager for a design to increase the capacity of the High Lift Pump Station. Replaced a 250 hp pump with a 300 hp pump that can supply the load demanded from the station.

Dutch Flat Mutual Consolidation Project - Placer County Water Agency (PCWA). The objective of the project was to connect PCWA's Alta water system to the Dutch Flat Mutual water system, bring the Dutch Flat Mutual water system up to current design standards and ultimately dissolve the mutual water system with the consolidation of the two systems. Developed preliminary design report assessing alternatives for the consolidation of Dutch Flat Mutual. Design included plan and profile sheets for approximately 2-miles of water distribution pipelines ranging in size from 10" to 8" to replace the existing undersized and failing distribution system: intertie the two systems, install tank control valve, SCADA, pressure reducing station, and replacement of approximately 10,000lf of water mains. Utilized potholing and USA markings from geotechnical effort to identify locations of existing utilities. Design included replacement of water services and in many cases required modified connections to the existing customers. Included permitting coordination with the Department of Drinking Water and Placer County.

Keena-Bell Pipeline Project – Placer County Water Agency, Auburn, CA. Project objective was to replace and relocated a failing cross country water main and place within County and private roads. PBI provided design services for the installation of 2,200 ft of new 18" transmission line to replace an aging 14" pipeline. Project was mostly through private property and required reconnection of existing water services. Project included permitting coordination with the Department of Drinking Water and Placer County and public outreach to coordinate proposed improvements with property owners and assist PCWA with development of permanent and temporary construction easements.

Ophir Road Pipeline Project – Placer County Water Agency, Auburn, CA. Provided design services for the installation of 2,200 ft of new 12" transmission line. Completed design in less than three months to allow new water service to a community with a failing well. Design included traffic control plans, Placer County encroachment permit, and coordination with Placer County

Red Ravine Siphon – Placer County Water Agency, Auburn, CA. Designed approximately 1,000 feet of 24-inch raw water main to replace and relocate existing main that has deteriorated and is prone to leaks. Project included utility coordination, permitting services, and engineering support during bidding.

WATER PLANNING

Jenny Lind Water Treatment Plant Pre-Treatment System - Calaveras County Water District (CCWD), San Andreas, CA. Designed pre-treatment process for the Jenny Lind WTP in response to impacts from the Butte fire. Performed condition assessment and developed predesign studies and reports for the alternatives of pretreatment. Developed the final design for the selected pretreatment process. Currently providing construction support services.

Transmission Main Evaluation – City of Roseville, CA. Project Manager for the development of a full desktop evaluation utilizing a risk-based approach for all of the transmission mains within the City of Roseville. Conducted collaborative workshops with City Staff to develop the desktop evaluation.

Transmission Main Evaluation – Fair Oaks Water District, CA. Prepared a study to assess the current condition of FOWD’s transmission mains. Included development of alternatives for rehabilitation, abandonment, and replacement of the system. The evaluation concluded with a recommended alternative and a capital improvement plan for implementing that alternative.

Lower San Joaquin Reach TS30L Levee Improvement Project – USACE Sacramento District, 2020-Present. PBI is providing civil engineering related design and construction services for the development of the plans, specifications, and Design Documentation Report (DDR) for one mile of levee seepage/stability improvements along the Lower San Joaquin River through the USACE Pre-Construction, Engineering, and Design (PED) process.

WELLS

Well Rehabilitation Program Management - California American Water, Sacramento, CA. Program manager for Cal-Am’s well rehabilitation program since 2006. Cal-Am’s systems include over 115 groundwater supply wells that varied in age and condition. Provided condition assessments, master plans, designs, and construction management. Typical well improvements included well development, surface seals, isolation of screening intervals, pumps and motors, hydropneumatic tanks, control valves, chlorine systems, and mechanical piping.

Cottage Way Well Improvements Project - California American Water, Sacramento, CA. Below ground design included water, sewer, and storm drain pipelines for connection to existing utilities. Above ground design included wellhead piping, pump-to-waste, hydropneumatics tank, chemical feed, standby generator, all electrical and instrumentation, site drainage and paving, and perimeter CMU wall and gate. Managed extensive permitting efforts and public outreach including: County of Sacramento permits (Use permit, Building Permit, SIPA), Department of Drinking Water variances and coordination, and communications with adjacent property owners for project coordination approval and property acquisition

Enterprise Northrop Operations Plan - Sacramento Suburban Water District (SSWD). Development of operations plan for tank, pump station, and intertie facility. Pump station can pump from tank or directly from City of Sacramento. Includes intertie between SSWD and City of Sacramento. PBI provided an assessment of how the facility was operated and identified recommended changes. This effort is on-going and will be summarized in Technical Memorandum.

Design, CM and Operations Plan Development for Antelope and Watt/Elkhorn Reservoir and Booster Pump Station - Sacramento Suburban Water District (SSWD), CA. Design of operational retrofit for two reservoir facilities: Antelope Reservoir and BPS and Watt-Elkhorn BPS. Development of Operations Plans to represent how each facility should be operated, identification of potential improvements needed, and creation of Recommended Retrofit TM. Providing draft and final design documents including plans, specifications, and engineer’s cost estimate for each facility. Project includes bid assistance and construction management services.

GROUNDWATER TREATMENT PLANTS

Countryside Groundwater Treatment Plant Improvements - California American Water, Sacramento, CA. Provided engineering services during construction of improvements to the Countryside Groundwater Treatment Plant, which included adding filters to expand the iron and manganese treatment process, adding a second scrubbing tower to remove methane, modifying the chemical feed system, adding load to the existing electrical system, and expanding the existing TESCO L2000 PLC system for control of the added filters.

Walnut Grove and Isleton Arsenic Treatment Systems - California American Water, Walnut Grove and Isleton, CA. Chemical engineer during predesign and final design of new arsenic treatment facilities at the Walnut Grove and Isleton water treatment plant sites. The 300 gpm Walnut Grove Groundwater Treatment Plant includes three 150 gpm vertically-oriented pressure vessels, 26,000-gallon backwash supply tank, 750 gpm backwash supply pumps and 30 gpm backwash recycle pumps enclosed in a small building, replacement of the existing 75 gpm well pump at Well No. 3 with a 300 gpm pump, connection of the existing hydropneumatic tanks at the Well No. 1 and Well No.3 sites to the distribution system to assist with system hydraulics (surges and low demand conditions), small chemical building (metering system of ferric chloride, hypochlorite, sodium hydroxide, and polymer, and chemical storages provided in containment nearby the chemical building), small building for the control panels, SCADA system, variable frequency drives (VFDs), and site improvements. The 500 gpm Isleton Groundwater Treatment Plant includes three 250 gpm separate pressure vessels (horizontal or vertical), two backwash supply tanks (50,000 and 70,000 gallons in capacity), small chemical building (includes ferric chloride storage and polymer metering systems, hypochlorite and sodium hydroxide metering systems, and controls), small operations building, SCADA system, new electrical service transformer; sanitary sewer connections; and site improvements.

Phase I Bayside Groundwater Facilities - East Bay Municipal Utility District , Oakland, CA. Chemical engineer during predesign and design of Phase 1 of the Bayside Groundwater project, which included a new 2 mgd aquifer storage and recovery (ASR) system. Improvements included equipping of the existing Oro Loma's Demonstration Well for both injection and extraction, 650 linear feet (LF) of pipeline to convey distribution water to and from the well, new wellhead enclosure, new well pump capable of pumping against distribution system pressure, pressure filter manganese removal treatment system, 2,000-square-foot chemical feed and operations building, backwash reclamation tanks and recycle pumping station that also serve to hold backflushed water from the well, recirculation/dechlorination system to remove chlorine from backflushed water prior to discharge to the storm drain, instrumentation and controls, site grading, paving, and security fence for the 0.42-acre site.

Big Horn Groundwater Treatment Plant - Sacramento County Water Agency, Elk Grove, CA. Chemical engineer for design of the new Big Horn Groundwater Treatment Plant. Operations building includes a small laboratory, controls, and telemetry room; electrical room; chlorinator system and chlorine storage room (using sodium hypochlorite); water softener; air compressor for filter system; restroom with shower and storage room; space for future ferric chloride; space for future emergency generator; and space for future fluoridation treatment.

Fluoridation of Groundwater Wells in South Service Area - Sacramento Suburban Water District, Sacramento, CA. Project manager for design, bidding, and construction engineering and management services for the fluoridation of 27 groundwater production wells located in the south service area (estimated population: 68,000), ranging from 387 to 3,500 gallons per minute (gpm). Improvements included hydrofluosilicic acid injection fluoridators, prefabricated fiberglass enclosure (with built-in spill containment base, pre-wired with electrical outlets, light, and exhaust fan), solids state acid feed pump mounted on a shelf on the building wall, injection of chemical into the main through fabricated injector installed in a threaded connection in the pressure tank outlet piping, emergency shower/eyewash station, electronic scales to provide monitoring of fluoride use, and electrical and control modifications. Electrical and SCADA modifications included installation of instrumentation and controls as well as remote terminal units (RTUs), integration with the district's existing supervisory control and data acquisition (SCADA) system, and control system modifications to accommodate fluoridation instrumentation, monitoring, and controls. Design and construction of the project was completely funded through Proposition 10 grant funds.

Arden Fluoridation Systems - California American Water, Sacramento, CA. Project manager for predesign, design, bidding, and construction engineering services for a new fluoridation system in the Arden area, which included five production wells. Liquid (hydrofluosilicic acid {HFA}) feed, saturator, and dry feeder fluoridation systems were evaluated. A liquid system was selected for based on the lower capital and operational cost, reduced chemical handling, and reduced operational problems. The HFA system consists of a 50-gallon double-contained tank and a metering pump located within a fiberglass enclosure. The tank is on a weigh-scale to provide inventory control via SCADA.

Suburban Fluoridation System - California American Water, Sacramento, CA. Project manager for predesign, design, bidding, and construction engineering services for a new fluoridation systems in the Suburban service area, which included 20 production wells. Liquid (hydrofluosilicic acid {HFA}) feed, saturator, and dry feeder fluoridation systems were evaluated. A liquid system was selected for based on the lower capital and operational cost, reduced chemical handling, and reduced operational problems. The HFA system consists of a 50-gallon double-contained tank and a metering pump located within a fiberglass enclosure. The tank is on a weigh-scale to provide inventory control via SCADA.

East Park Groundwater Treatment Plant - Sacramento County Water Agency, Elk Grove, CA. Designed hypochlorite feed system for this new 2.8 mgd East Park Water Treatment Plant, which was needed to meet the rapidly increasing water demands in the East Elk Grove area.

OZONE

Ozone Disinfection Facility - Kingsbury General Improvement District, Stateline, NV. Provided construction engineering and startup assistance for modifications to the 4,000 gpm, 75 lb/day ozone disinfection facility. Facility uses compressed air for ozone generation and a subsurface vertical bubble contactor to provide for ozone dissolution and the required Surface Water Treatment Rule (SWTR) contact time.

Ozone Plant Study - Kingsbury General Improvement District, Stateline, NV. Identified and evaluated potential negative impacts to maintenance and operation of the district's ozone water treatment plant, and to public health and safety arising from the proposed new building over and around the plant. Issues evaluated included ozone gas emissions, ozone generation equipment safety and operational interlocks, emergency response protocols, maintenance access issues, and building code requirements.

Ozone Disinfection Facility - North Tahoe Public Utility District, Tahoe Vista, CA. Provided preliminary design for an ozone disinfection water treatment facility. Compared liquid oxygen and air feed systems for ozone generation. Compared bubble contractor and inline eductor systems for ozone dissolution. Selected the best alternative based upon both cost and non-cost factors.

Ozone Disinfection Facility - Edgewood Water Company, Edgewood, NV. Project manager for design and construction of the 50 lb/day ozone disinfection facility, which treats up to 2,500 gpm. Facility uses compressed air for ozone generation, and a vertical bubble contactor to provide for dissolution of ozone and the Surface Water Treatment Rule (SWTR) required contact time for *Giardia* and virus deactivation. Project also included 6,500 linear feet of 14-inch-diameter pipeline, which changes 300 feet in elevation and included a jack and bore operation under Highway 50.

Ozone Disinfection Facility - Glenbrook Water Cooperative, Glenbrook, NV. Assisted with facility layout and process design for the 25 lb/day ozone disinfection facility. Facility uses liquid oxygen to generate ozone and a vertical bubble contactor to provide for ozone dissolution and the required Surface Water Treatment Rule (SWTR) contact time.

WATER PUMPING STATIONS AND DISTRIBUTION

Electric Street Tank and Pipeline Project - Placer County Water Agency, Auburn, CA, 2012. Provided design services for an above ground 5 MG concrete potable water storage tank. The project included the installation of new 30" transmission lines into and out of the new storage tank and other miscellaneous system improvements to improve the operational flexibility and reliability of the Electric Street pressure zone.

Historic District Utilities Rehabilitation - City of Folsom, Folsom, CA. Designed and assisted with construction management for 1,100 LF of 8 inch sewer line and 6,200 LF of 8 inch water line.

Phase I Suburban-Rosemont Supply and Distribution System Pipeline - California American Water Company, Sacramento, CA. Project manager for design and bidding services for: (1) approximately 3,590 linear feet (LF) of 24-inch-diameter water main, located near the Folsom Boulevard and Watt Avenue intersection, and along Manlove Road; (2) approximately 105 LF of 16-inch-diameter water main on Folsom Boulevard, near the Manlove Road intersection; (3) three trenchless crossings (one at approximately 218 LF, and two at approximately 153 LF each) under the existing Sacramento Regional Transit's railroad; (4) all accessories, including air valves, blow-off valves, and fire hydrants along the water main; and (5) tie-ins near Folsom Boulevard and Manlove Road intersection, New Dawn Drive and Manlove Road intersection, and Sutters Gold Drive and Manlove Road intersection.

Phase I Suburban-Rosemont Supply and Distribution System Pumping Station - California American Water Company, Sacramento, CA. Project manager for CEQA environmental documentation, permitting, and preliminary design services for a new 3 mgd (expandable to 10 mgd) water booster pumping station to offset the projected production deficit and maintain system pressures between 40 to 65 psi throughout the Suburban-Rosemont water system. This booster pumping station included vertical turbine pumps in cans, motors above grade, double-walled tank with double-contained chemical piping for sodium hypochlorite storage and feed equipment, natural-gas standby generator, and small masonry building that houses the electrical motor control centers (MCCs), variable frequency drives (VFDs), and control panels.

Hollister Street 20-Inch-Diameter Water Main Replacement - California American Water, Coronado, CA. Project manager during design services for replacement of the existing 20-inch-diameter water main in Hollister Street, which included approximately 1,200 linear feet (LF) of 20-inch-diameter water distribution main in the same alignment between Flower Avenue and just south of Ingrid Avenue. The new pipeline was installed using open trench construction. For the portion of the pipeline passing underneath the culvert for Nestor Creek, the pipe was inserted in a steel pipe casing and the casing was installed using auger boring and jacking as its trenchless method of construction.

West Side Tank and Pumping Station - City of Roseville, CA. Assisted with design of three new 6 million-gallon (MG) reservoirs and 21,500 gpm pumping station (1,500 hp). The booster pumping station included a building to house the pumps, electrical panels, telemetry for full SCADA control, and a standby generator. The site also houses a remote water distribution crew building, which included a water meter testing facility. All of the buildings and facilities incorporate the city's latest security measures.

Elverta Road Bridge Main Replacement, Project No. 05600713 (Antelope System) - California American Water, Sacramento, CA. Project manager for preparation of a basis of design report (BODR) for the Elverta Road Bridge Main replacement project, which involved removal and replacement of approximately 280 lineal feet (LF) of 12-inch-diameter water main attached to the Elverta Road Bridge. The relocation was needed to accommodate Sacramento County Department of Transportation's plans to widen the bridge across Dry Creek on Elverta Road, between Watt Avenue and approximately 300 feet east of Rivergreen Drive, from two lanes to four lanes. In addition to relocating the pipe at the bridge approach, the water line in the vicinity of 28th Street culvert was

adjusted and fire hydrants along the planned widened portion of Elverta Road were relocated.

Edgewood-Kingsbury Intertie Improvements - Edgewood Water Company/Kingsbury General Improvement District, Stateline, NV. Project manager during design and bidding services for a new intertie between the Edgewood Water Company's and Kingsbury General Improvement District's (KGID's) water systems to provide emergency backup water supply exchange. Improvements included a new 1,000 gpm pumping station to limit the sharing of water between the water systems, and approximately 2,200 linear feet (LF) of 12-inch-diameter pipeline.

Sacramento International Airport Water System Improvements - Sacramento County Airport System, Sacramento, CA. Provided engineering services during construction of approximately 17,500 linear feet (LF) of 16-inch-diameter water main piping, 4,500 LF of 24-inch-diameter water main piping, two 1.4 million-gallon (MG) water storage tanks, and 8.3 mgd booster pumping station with a standby generator to boost the pressure up to 60 psi.

Copper Cove Water System Zone C Pumping Station and Transmission Main Improvements - Calaveras County Water District, San Andreas, CA. Project manager for preliminary design and final design of a new 2,000 gpm (4,500 gpm buildout) water pumping station and approximately 10,000 linear feet (LF) of 20-inch-diameter water transmission main.

Eastern Sacramento County Replacement Water Supply - Sacramento County Water Agency, Sacramento, CA. Project manager for preparation of a preliminary design report for the Eastern Sacramento County Replacement Water Supply project, which consists of a pipeline system (approximately 60,000 linear feet {LF} of 12- to 24-inch-diameter pipe) transmitting treated groundwater from selected groundwater extraction and treatment (GET) facilities to various natural water courses and channels that flow into the American River.

Water Distribution R Feather River Early Implementation Project – Sutter Butte Flood Control Agency reliability Predesign and Treatment Plant Failure Mode Analysis - Edgewood Water Company, Edgewood, NV. Project manager for evaluation of alternatives for providing redundant treated water supply to improve the reliability of the water distribution system, development of prioritized recommendation of potential failure modes categorized as highly likely to occur and with significant consequences, and design of intertie between the 14-inch-diameter water distribution main and 14-inch-diameter water main supplying the Embassy Suites' fire protection system. The intertie included approximately 20 linear feet of 14-inch-diameter water main and one manually operated valve.

Hinkle-Crown Point Pumping Station Improvements - San Juan Water District, Granite Bay, CA. Assisted with design of a new 6,000 gpm pumping station, which included an air-conditioned control building to house the electrical controls and motor control center.

Water Pumping Station Hypochlorite System - City of Astoria, Oregon. Provided quality assurance/quality control (QA/QC) for design of the new sodium hypochlorite feed system for a water booster pumping station.

Mather Booster Station - California American Water, Mather, CA. Provided design and construction engineering services for the chlorination system for the 6,000 gpm booster pumping station at Mather Field. Design included a chlorine injection system.

A Parkway Water Booster Pump Station - California American Water, Sacramento, CA. Designed chlorine feed system and a leak neutralization scrubber for the 6,000 gpm water booster pumping station.

Crowder Lane Control System Upgrades - Project No. 05600709 (West Placer System), California American Water, Sacramento, CA. Prepared a basis of design report

(BODR) for the Crowder Lane control system upgrades project, which involved installation of a variable flow chlorine injection system, water flow control valve and related controls, telemetry control devices needed for communications with the Walerga Tank and booster station, and concrete vault and enclosures needed for housing the equipment.

WATER SYSTEM - DISINFECTION SYSTEM PLANNING

Chlorine Disinfection Improvements - City of Portland, OR. Assisted with planning and design of improvements to the chlorine disinfection system for the Bull Run water supply.

Ebbetts Pass Water System HAA Reduction Study - Calaveras County Water District, San Andreas, CA. Performed study to evaluate methods for reducing the formation of haloacetic acids (HAA) within the Ebbetts Pass water distribution system. Study recommended methods to implement to bring the system back into compliance with the Disinfection By-Products Rule regulations.

Disinfection By-Product (DBP) Rule Seminar - Calaveras County Water District, San Andreas, CA. Prepared and presented a seminar to educate district staff of the DBP Rule, and its impact on district facilities. The seminar covered both the U.S. Environmental Protection Agency (USEPA) and state versions of the DBP Rules, including applicability, implementation, schedule, monitoring, and reporting as they apply to the district's five water treatment plants.

WATER TREATMENT REGULATIONS

USEPA Guidance Manual for Selecting a Drinking Water Disinfectant - U.S. Environmental Protection Agency. Served as coordinating author and assistant project manager to develop an U.S. Environmental Protection Agency (USEPA) guidance manual for selecting a drinking water disinfectant system, considering disinfection by-products, disinfection efficacy, water quality, and cost. Manual included discussions on the need for disinfection, disinfection by-product (DBP) formation, and disinfection effectiveness for bacteria, viruses, and protozoa, as well as chemistry, design, operation, and residual analysis parameters for six disinfectants (ozone, chlorine dioxide, chloramine, ozone/peroxide, ultraviolet {UV} radiation, and potassium permanganate). Final section of the manual provided a flow diagram (decision tree) for evaluating the existing disinfection strategy at a plant, and methods for selecting a new strategy for primary and/or secondary disinfection.

Corrosion Evaluations - City of Hayward, City of Fresno, City of San Francisco, and El Dorado Irrigation District, CA. Project manager for preparation of EPA Lead and Copper Rule desktop corrosion control evaluations. Evaluations considered corrosion control strategies for each raw water source relative to each systems water quality and operating facilities.

EPA Waiver Requests - City of Sacramento, CA. Prepared Environmental Protection Agency (EPA) Phase II/V waiver requests for two different surface water sources. Waiver requests were based upon historical data, lack of chemical use, and lack of susceptibility to chemical contamination within the watershed.

Genoa Water System Corrosion Control Study - Douglas County, Minden, NV. Provided quality assurance/quality control for the chemical feed options for four wells in the Genoa water system (Genoa Lakes No. 1 & No. 2 wells, Sierra Shadows Well No. 1, and Walleys future well) that experienced copper corrosion problems resulting from a depression of the natural pH of the water as the result of CO₂ saturation.

Arsenic Design Manual - American Water Works Association Research Foundation, Denver, CO. Assisted with development of the Arsenic Design Manual, which describes the design and maintenance of arsenic removal technologies.

WATERSHED SANITARY SURVEYS

Upper Mokelumne Watershed Sanitary Survey Update - Calaveras County Water District, San Andreas, CA. Assisted with preparation for the Upper Mokelumne Watershed Sanitary Survey 2005 update. Responsible for water treatment plant processes, water quality data, and regulatory overview portions of the survey.

Calaveras River Watershed Sanitary Survey Five-Year Update - Calaveras County Water District, San Andreas, CA. Responsible for evaluating raw and treated water quality data, identifying changes and trends in the data, and providing recommendations for watershed management procedures.

Stanislaus River Watershed Sanitary Survey Five-Year Update - Stockton East Water District, Stockton, CA. Prepared the five-year update of the Stanislaus River watershed sanitary survey, which included evaluating raw and treated water quality data, identifying changes and trends in the data, and providing recommendations for watershed management procedures.

Stockton East Canal Watershed Sanitary Survey - Stockton East Water District, Stockton, CA. Prepared the watershed sanitary survey for the Stockton East Canal watersheds. Preliminary survey included describing the watershed, identifying potential sources of contamination, evaluating water quality data, and reviewing and recommending watershed management procedures.

Lake Tahoe Watershed Sanitary Survey - North Tahoe Public Utility District, Tahoe Vista, CA. Prepared watershed sanitary survey for the National Avenue intake from Lake Tahoe watershed, which included describing the watershed, identifying potential sources of contamination, evaluating water quality data, and reviewing and recommending watershed management procedures.

American River Watershed Sanitary Survey - City of Sacramento, CA. Prepared watershed sanitary survey for the American River watershed. Role in survey included describing the watershed, identifying potential sources of contamination, and evaluating water quality data relative to water treatment capability in the watershed.

Feather River Watershed Sanitary Survey Update - City of Yuba City, CA. Project manager for preparation of watershed sanitary survey for the Feather River watershed, below Oroville Dam and above Yuba City. Survey included describing the watershed, identifying potential sources of contamination, evaluating water quality data, meeting with Department of Health Services (DHS) staff to discuss concerns, and reviewing and recommending watershed management procedures.

Upper Mokelumne River Watershed Sanitary Survey - East Bay Municipal Utility District, Oakland, CA. Prepared watershed sanitary survey for the Upper Mokelumne River watershed, above Pardee Dam. Role in survey included describing the watershed and evaluating microbial and chemical water quality data.

WATER RECLAMATION

El Segundo Recycling Plant Phase IV Expansion Design-Build - West Basin Municipal Water District, Carson, CA. Provided design and construction engineering services for new chemical feed and storage facilities, replacement of the sodium hypochlorite disinfection system with an ultraviolet (UV) irradiation system, modifications to chlorine contact basins to increase hydraulic residence time, and modification and addition of reverse osmosis (RO) product water decarbonators and chemical stabilization for the El Segundo Recycling Plant Phase IV expansion design-

build project. The new sulfuric acid storage and feed system reduces raw water pH prior to RO. The existing sulfuric acid facilities had to operate continuously during construction of the new system, and the new sulfuric acid storage and feed system was operational during construction of other improvements at the plant. The new sulfuric acid storage and feed system included metering pumps, new Carpenter 20 and PVDF piping, diffusers at the pipeline injection points, control system, power supply, and safety systems. Since the improvements had to be designed and constructed on a fast-track schedule, a design-build method was implemented. Design was completed in just six months to facilitate design-build construction.

Recycled Water Master Plan Update - El Dorado Irrigation District, El Dorado County, CA. Prepared recycled water master plan update, which was integrated with the district's water and wastewater master plans. Identified alternatives for continued development of the recycled water system for the seasonal storage, distribution forcemain, pumping stations, storage tanks, and individual recycled water applications.

Phase 1 Reclamation Study - City of Las Vegas, NV. Provided an initial evaluation of reuse potential in the Las Vegas Valley. Evaluation included a description of: potential service areas, potential reuse applications, a summary of water rights and water budget issues, a summary of local and state regulations affecting effluent reuse, the operation of reclaimed water reuse projects, and an economic analysis of four reuse alternatives. A golf course is planned for construction and effluent from the Las Vegas plant will provide reclaimed water for irrigation.

MASTER PLANNING

Water System Master Plan - Calaveras Public Utility District, San Andreas, CA. Provided water treatment plant regulatory, operability and capacity evaluations for water system master plan. Existing water treatment facility included 6 mgd of pressure filtration.

Sun City Tehama Potable Water and Irrigation System Master Plans - Del Webb, Tehama, CA. Provided quality assurance/quality control (QA/QC) for development of potable water and irrigation system master plans for the Sun City Tehama development, a proposed development with approximately 3,500 homes and an 18-hole golf course.

Facility Master and Financial Plans - Calaveras County Water District, San Andreas, CA. Project manager for development of financial master plans for the water and sewer systems, and facility master plans for the Jenny Lind Water Treatment Plant, Ebbetts Pass Water Treatment Plant, Arnold Sewer Plant, West Point Sewer Plant, and West Point/Wilseyville water system.

Wastewater Master Plan Update - El Dorado Irrigation District, El Dorado County, CA. Project engineer for update of the 1996 wastewater master plan to address changes in growth projections, effluent discharge requirements, and facility options.

WASTEWATER TREATMENT PLANTS - DISINFECTION SYSTEM PLANNING

Sludge Dewatering and Odor Control at Plant No. 1 (Job P1-101) - Orange County Sanitation District, Fountain Valley, CA. Provided technical input for chemical handling system upgrade design for new thickening and dewatering facilities at Plant No. 1.

Disinfection Contact Basin - Sacramento Regional County Sanitation District, Elk Grove, CA. Provided predesign services for a new disinfection contact basin at the 165 mgd Sacramento Regional Wastewater Treatment Plant, which will provide reliable disinfection and consistent compliance with regulatory discharge requirements. Project included: (1) preparation of a contingency plan to expedite conversion of from gaseous

chlorine and sulfur dioxide to sodium hypochlorite and sodium bisulfite; (2) preparation of testing protocols; (3) evaluation of alternative disinfection approaches, including for chlorine (gas) with new disinfection contact basin, sodium hypochlorite with new disinfection contact basin, ozone, ultraviolet light (UV), chlorine versus hypochlorite, bromine, and chlorine (gas) without a disinfection contact basin; (4) identification of design criteria and potential future uses for the disinfection contact basins; (5) identification of other improvements, which included modifications to the existing chlorine storage and equipment, new sampling stations, new sulfur dioxide or sodium bisulfite dechlorination facility, decommissioning or modification to the existing dechlorination facility, relocation of major site utilities, extension of existing site utilities (water, power, and SCADA), and general site improvements (paving and drainage); (6) hydraulic analysis to determine hydraulic energy requirements for the disinfection contact basin and various process options, and establish the appropriate hydraulic grade line; (7) identification of potential sites for near-term and future facilities; (8) identification of the recommended project; and (9) preparation of the predesign technical memoranda.

Gaseous Chlorine Disinfection Phase-Out Conversion Study - City of San Jose, CA.

Project manager for a study investigating alternatives and recommending an optimal disinfection technology for the sodium hypochlorite and sodium bisulfite storage and feed equipment at the city's 167 mgd San Jose/Santa Clara Water Pollution Control Plant. Alternatives that were evaluated included the following: (1) chlorination with gaseous chlorine, and dechlorination with sulfur dioxide; (2) chlorination with gaseous chlorine, and dechlorination with sulfur dioxide with continued use of existing facilities; (3) chlorination with sodium hypochlorite, from outside supplier, and sodium bisulfite for dechlorination; (4) chlorination with sodium hypochlorite, generated onsite, and sodium bisulfite for dechlorination; (5) ultraviolet (UV) disinfection with low-pressure high-intensity lamps; and (6) UV disinfection with medium-pressure high-intensity lamps. An implementation plan for the recommended conversion from gas to liquid was also developed.

Columbia Boulevard Wastewater Treatment Plant Disinfection System - City of Portland, OR. Evaluated alternatives for the city's disinfection system. Identified a recommended approach to disinfection and provided quality assurance/quality control (QA/QC) for design of sodium hypochlorite disinfection system.

Disinfection and Chlorine Use Efficiency Study - City of Modesto, CA. Project manager for two studies to increase the efficiency of disinfection and chlorine use at the wastewater treatment plant. The first studied the mixing characteristics at the chlorine mix chamber. The second study investigated the feasibility of switching the one-ton chlorine cylinders for a single bulk storage tank.

Chemical Facility Plan - Clean Water Services, Tigard, OR. Prepared a chemical facility plan for Durham Wastewater Treatment Plant as the treatment capacity increased from 20 to 29 mgd. Chemical systems evaluated include sodium hypochlorite, sodium bisulfite, alum, polymer, lime, and ferric chloride.

Disinfection System Evaluation - City of Placerville, CA. Evaluated disinfection system and coliform discharge violations at the Hangtown Creek Wastewater Treatment Plant. Alternatives to the existing chlorine gas system considered included chloramination, sodium hypochlorite and ultraviolet (UV)-based disinfection. Discharge violations were determined to be due to a combination of intermittent nitrification and filter ballast pond overflows into the chlorine contact basins. The recommended project included continuing use of chlorine gas with safety improvements, process improvements to control nitrification, and process improvements to increase flow equalization capacity at the plant.

Chlorination/Dechlorination Evaluation - City of Woodland, CA. Evaluated the chlorination and dechlorination facility capacity at the wastewater treatment plant. Chlorine and sulfur dioxide gas feeders, evaporators, and storage capacity were

evaluated, with recommendations for expansion, as the overall treatment capacity increased from 12 to 16 mgd.

Disinfection Options Study - Carmel Area Wastewater District, Carmel, CA. Performed a disinfection options study that studied options to upgrade and/or replace chlorine disinfection, improve reliability, and reduce TDS/SAR in the reclaimed water. Alternatives evaluated included chlorine gas, sodium hypochlorite, calcium hypochlorite, and ultraviolet (UV) for disinfection. Dechlorination alternatives included sodium bisulfite and calcium thiosulfate.

Disinfection System Alternatives Analysis - City of Las Vegas, NV. Project manager for disinfection system alternatives analysis to replace the water pollution control facility's existing chlorine and sulfur dioxide gas systems. The facility is required to nitrify eight months out of the year. Disinfection alternatives evaluated included bulk sodium hypochlorite, onsite generated sodium hypochlorite, low pressure/low intensity Horizontal and vertical ultraviolet (UV) configurations, low pressure/high intensity UV, and medium pressure UV. Pilot testing was performed on unfiltered, filtered, and filtered reuse effluent to determine the required UV dosages. Both low pressure and medium pressure UV systems were tested. Sodium bisulfite and calcium thiosulfate were considered for dechlorination. The recommended project included bulk sodium hypochlorite for disinfection and sodium bisulfite for dechlorination.

Disinfection Options Evaluation - City of Las Vegas, NV. Evaluated disinfection options for disinfection of 7 mgd reuse water for golf course application. Processes evaluated included ultraviolet (UV) and sodium hypochlorite. Designed modifications to existing and abandoned facilities to provide extended chlorine contact time for sodium hypochlorite disinfection.

Chemical Evaluation for Dewatering Facility - Sacramento Regional County Sanitation District, Elk Grove, CA. Evaluated polymer feeders, chemical metering pumps, and corrosion control systems for the wastewater treatment plant dewatering facility design project.

WASTEWATER TREATMENT PLANTS

Phase 2 Michelson Water Reclamation Plant Expansion - Irvine Ranch Water District, Irvine, CA. Chemical engineer for Phase 2 capacity expansion of the Michelson Water Reclamation Plant. Improvements include influent sewers, headworks, primary sedimentation tanks, primary effluent flow control, activated sludge modifications, membrane bioreactor (MBR) facility, high-rate clarifier, effluent filtration, disinfection, reclaimed water pumping, chemical feed systems (includes ferric chloride and polymer systems), sludge fermentation and thickening, electrical power supply, instrumentation and control, and stormwater management. Disinfection is provided using gaseous chlorine. A new 1.9 million-gallon (MG) chlorine contact chamber was constructed to provide sufficient capacity to handle Phase 3 flows. Effluent from the new chlorine contact chamber is routed to the MPS-2 wetwell. Both the new and existing chlorine contact chambers are equipped with baffles, fillets, and diffuser walls to reduce short circuiting and increase disinfection efficiency. The chlorine feed capacity was expanded by installing new evaporators and an additional chlorinator. The capacity of the chlorine scrubber was expanded from 5 to 25 tons. A new magnesium hydroxide feed system was installed for alkalinity and pH control in the biological processes. The existing methanol feed system was modified to serve as a back-up to the unified thickening and fermentation (UFAT) process for augmenting the carbon supply to the denitrification process. New pumps were installed in the existing potassium hydroxide feed system.

Polymer System Improvements - Delta Diablo Sanitation District, Antioch, CA. Provided design, bidding, and construction engineering services for polymer system improvements at the wastewater treatment plant.

New Wastewater Treatment Plant - City of Healdsburg, CA. Designed the ultraviolet (UV) disinfection facility for final effluent disinfection and chemical feed facilities for the new 1.4 mgd average dry weather flow (ADWF) and 7.0 mgd peak hour (with flow equalization) wastewater treatment plant.

Los Alisos Water Reclamation Plant Upgrades - Irvine Ranch Water District, Irvine, CA. Provided quality assurance/quality control during design and construction engineering services for new chlorine contact tank and conversion of chlorine gas to sodium hypochlorite facilities for the Los Alisos Water Reclamation Plant expansion from 6 to 7.5 mgd.

Chlorination Facilities (Contract 29) - City of Las Vegas, NV. As part of the \$105 million expansion of the water pollution control facility from 66 to 91 mgd, provided predesign, design, and construction engineering services for a new chemical building that houses sodium hypochlorite and sodium bisulfite storage and feed systems to supply chemicals (including ferric chloride) to the chlorine contact basins.

Sonoma Valley County Sanitation District Tertiary Treatment Upgrades - Sonoma County Water Agency, Sonoma, CA. Evaluated and designed filtration, coagulation, and chlorination system improvements to provide Sonoma Valley County Sanitation District Treatment Plant disinfected tertiary effluent, as defined by the California Code of Regulations, Title 22.

Russian River County Sanitation District Treatment Plant Third Unit Processes Project - Sonoma County Water Agency, Guerneville, CA. Designed chlorination/dechlorination system improvements for the Russian River County Sanitation District to provide a total treatment plant capacity of 3 mgd average dry weather flow and 3.5 mgd maximum wet weather flow.

El Dorado Hills Wastewater Treatment Plant Regulatory Compliance Improvements - El Dorado Irrigation District, El Dorado Hills, CA. Provided quality assurance/quality control (QA/QC) for the El Dorado Hills Wastewater Treatment Plant chemical feed system design. Chemical feed system stores and distributes methanol and acetic acid.

Sulfur Dioxide System Improvements - Fairfield-Suisun Sewer District, Fairfield, CA. Provided design and construction engineering services for sulfur dioxide system improvements at the wastewater treatment plant, as part of the 2004 maintenance improvements project. Improvements included addition of an automatic change over system for the cylinders and new cylinder scales.

Hypochlorite Conversion - City of Millbrae, CA. Project manager for design and construction of hypochlorite conversion (from chlorine gas) system at the wastewater treatment plant. Project included new bisulfite facilities for dechlorination, consideration of building code requirements on the city's very restricted site, and hypochlorite feed to three separate process streams.

Hangtown Creek Wastewater Treatment Plant Chlorine and Sulfur Dioxide Facility Improvements - City of Placerville, CA. Designed chlorine and sulfur dioxide facility improvements at the Hangtown Creek Wastewater Treatment Plant. Improvements included facility enclosure and a leak neutralization scrubber.

Bulk Soda Ash Storage and Feed Facility (Contract 17) - City of Las Vegas, NV. Designed the bulk soda ash storage and feed facility at the water pollution control plant, which included two 50,000-pound soda storage hoppers, dry volumetric feeders, and progressive cavity slurry pumps.

Dechlorination Facility (Contract 12) - City of Las Vegas, NV. Project manager for design and construction of the 99 mgd dechlorination facility at the water pollution control plant. Facility included bulk sulfur dioxide storage, evaporation and feed equipment, and leak neutralizing scrubber. Other work included modifications to the existing bulk chlorine storage and feed facility.

Chlorination Facility - Minden-Gardnerville Sanitation District, Minden, NV.

Provided design and construction engineering services for a chlorination facility for the wastewater treatment plant, which uses 15 percent sodium hypochlorite solution to provide chlorine for effluent disinfection and headworks odor control. Facility included storage tanks, a vent scrubber, and chemical metering pumps.

North Valley Wastewater Treatment Plant Expansion - Douglas County, Minden, NV.

Assisted with design of the chlorine contact basin for the North Valley Wastewater Treatment Plant expansion from 0.8 mgd to 1.6 mgd.

Phase 1A and 1B Expansion of Water Reclamation Plant No. 1 - City of Lathrop, CA.

Production manager for fast-track phased expansions to increase capacity of 0.6 mgd Water Reclamation Plant No. 1 to 1.2 mgd (Phase 1A) and then to 3 mgd (Phase 1B). Improvements included screening, grit removal, extended aeration nitrification/denitrification, sedimentation, disinfection, return activated sludge (RAS) pumping, and sludge dewatering.

Odor Control, Disinfection, and Chemical Storage Systems - City of Fresno, CA.

Designed odor control, disinfection, and chemical storage systems for Fresno-Clovis Regional Wastewater Treatment Plant. Odor control is provided by ferric chloride addition and a packed tower using caustic and sodium hypochlorite solution. Disinfection is provided by sodium hypochlorite. Chemical storage facilities for 43 percent ferric chloride, 20 percent sodium hydroxide, and 15 percent sodium hypochlorite solutions were also provided. Also provided the overall headworks hydraulics and design of grit removal and grit washing facilities for the headworks.

Chlorine Feed and Storage Facilities - City of Visalia, CA. Provided design and construction engineering services for the chlorine feed and storage facility at the 55 mgd wastewater treatment plant. Facility included 22 one-ton chlorine cylinder storage, evaporation and feed equipment, and chlorine leak neutralizing scrubber.

Ultraviolet (UV) Disinfection System - City of Escondido, CA. Designed the Hale Avenue Resource Recovery Facility UV disinfection system. Prepared preliminary design layouts and process schematics for the UV disinfection facility, pumping stations, backwash storage tank, and sodium hypochlorite, alum, and polymer feed and storage equipment.

Sodium Hypochlorite and Sodium Bisulfite Feed and Storage Facilities - Hampton Roads Sanitation District, Virginia Beach, VA. Designed temporary and permanent sodium hypochlorite and sodium bisulfite feed and storage facilities at seven wastewater treatment plants. Temporary facilities were required to provide disinfection and dechlorination while the existing chlorine and sulfur dioxide equipment was removed so that new equipment can be installed at the same location.

Soda Bay Water Reclamation Plant Chemical Feed and Storage Facilities - City of San Diego, CA. Designed chemical feed and storage facilities for the South Bay Water Reclamation Plant. Bulk chemicals used at the facility include alum, sodium hydroxide, sodium hypochlorite, ferric chloride, and polymers.

Chemical Facility - City of Kennewick, WA. Provided quality assurance/quality control (QA/QC) for the chemical storage and injection system designed for the wastewater treatment facility, which treats industrial process wastewater from a local fruit juice processor (Welch's Foods). Typically, wastewater flows can range from 100 gpm to 900 gpm, and pH varies from 2.8 to 12.0.

Water Reclamation Pilot Facility - University of California Los Angeles (UCLA).

Provided design, construction engineering, and startup services for a water reclamation pilot facility for Lake Arrowhead and UCLA. The pilot facility treated effluent from the secondary clarifiers and attempted to meet near drinking water standards so that effluent could be returned to the lake. Processes used include contact clarification, ozonation,

sand and granular activated carbon (GAC) filtration, ultrafiltration, and reverse osmosis (RO).

Potassium Permanganate Storage and Supply System - Westchester County, White Plains, NY. Provided procurement assistance and design of a potassium permanganate storage silo and supply system.

WASTEWATER PUMPING STATIONS

Rio Hondo Pump Station - Central Basin Municipal Water District, Carson, CA. Assisted with design of modifications to fully integrated the Rio Hondo Pump Station facility with the new Southeast Water Reliability Project booster pumping station, which included electrical and power supply, backup power generation system, instrumentation and control systems, SCADA/telemetry system, and variable frequency drives (VFDs).

Van Maren Pumping Station for Upper Northwest Interceptor Sections 7 and 8 - Sacramento Regional County Sanitation District, Citrus Heights, CA. Provided design and construction engineering services for the new chemical feed system and storage system serving the new 45 mgd Van Maren Pumping Station. Chemical feed system is used for sulfide production. Chemical storage consists of 6,000-gallon storage tanks, and two chemical feed pumps.

New Natomas Pumping Station - Sacramento Regional County Sanitation District, Sacramento, CA. Provided quality assurance/quality control (QA/QC) for design of chemical feed facility for the new 168 mgd New Natomas Pumping Station.

South River Pumping Station - Sacramento Regional County Sanitation District, Sacramento, CA. Provided quality assurance/quality control (QA/QC) for design of the chemical feed facility for the new 221 mgd South River Pumping Station.

Pioneer Reservoir Chemical Feed Facility - City of Sacramento, CA. Provided design and construction engineering services for chemical feed facility for the Pioneer Reservoir facility, which uses sodium hypochlorite for disinfection and sodium bisulfite for dechlorination.

COLLECTION SYSTEMS

Dechlorination Facility - East Bay Dischargers Authority, San Lorenzo, CA. Project manager for design and construction of new sodium bisulfite storage and feed facility for the 180 mgd wastewater effluent outfall. The sodium bisulfite discharge point was integrated into the existing sulfur dioxide facility.

Sodium Bisulfite Dechlorination Facility Predesign for Brightwater Conveyance System - King County, WA. Performed quality assurance/quality control (QA/QC) for dechlorination facility chapter of the predesign report prepared for the 22-mile-long Brightwater conveyance system.

Collection System Evaluation - Central Contra Costa Sanitation District (CCCSD), CA. Reviewed condition of the wastewater collection system for the community of Rossmoor. District assumed responsibility of the collection system and requested this review to determine the overall condition of the system, as well as the maintainability of the system. Age and material of the collection system piping were correlated with television surveys of specific piping runs to predict the overall condition of the system. Accessibility to the collection system for maintenance was evaluated by setting criteria and reviewing drawings for the location and depth of manholes and cleanouts. Recommendations were made for modifications and rehabilitation projects that were required prior to CCCSD's operation of the collection system.

Collection System Evaluation - Clean Water Services, Tigard, OR. Evaluated the wastewater collection system. Collection system flow monitoring data was analyzed to

identify dry weather flow, wet weather infiltration, and storm related inflow. Data was correlated with existing land uses to provide a basis for a computer model that predicts future flows and identifies rehabilitation projects.

WASTEWATER TREATMENT REGULATIONS / PERMIT COMPLIANCE

OSHA Process Safety Management Requirements Compliance - City of Stockton, CA. Project manager for assisting the wastewater treatment plant staff with compliance of OSHA Process Safety Management requirements for its chlorine and sulfur dioxide gas facilities. Work included assembling process safety information and performing process hazard analyses.

Effluent and Receiving Water Quality Analysis - City of Placerville, CA. Project manager for effluent and receiving water quality analysis for the Hangtown Creek Wastewater Treatment Plant. Study included analyzing effluent constituents, including chronic biotoxicity, and comparing the results to the inland surface water plan. Also negotiated a NPDES waste discharge permit for this facility.

Effluent Treatability Study - University of California Davis. Performed an effluent treatability study for the wastewater treatment plant. Responsible for evaluation of the capability of the campus wastewater treatment plant to treat landfill leachate, including estimation of effluent concentrations and identification of problem constituents.

Deer Creek Wastewater Treatment Plant Coliform Evaluation - El Dorado Irrigation District, Placerville, CA. Assisted the district in modifying the Deer Creek Wastewater Treatment Plant NPDES permit limitations for coliform bacteria and CBOD and TSS mass loading. Developed alternatives and cost estimates for additional treatment.

FLOOD CONTROL PROJECTS

Napa Creek Box Culverts and Flood Terrace Project – U.S. Army Corps of Engineers, Sacramento District. Performed independent technical review (ITR) for the flood control project passing through downtown Napa. Project included two box culverts, modifications to three bridges and terraced landscaping.

Sutter Basin Feasibility Study – Sutter Butte Flood Control Agency, Sacramento, CA, 2009-2011. Project engineer for developing the alternatives and damage cost estimates for the Sutter Basin Feasibility Study (SBFS). The purpose of the SBFS is to evaluate flood damage reduction, ecosystem restoration, and recreation projects within the Sutter-Yuba City basin. The 300-square mile study area is subject to flooding from the Cherokee Canal, Feather River, Wadsworth Canal and Sutter Bypass. The study included USACE's requirement to evaluate projects using Risk and Uncertainty procedures. Stage and inundation data from the hydraulic analysis will be combined with levee fragility data and economic data to estimate damages for the without-project condition. The study utilized HEC-RAS to model channel hydraulics and FLO-2D to model overland flow.

Smith Canal Closure Device - San Joaquin Area Flood Control Agency. Performed QA/QC for the preliminary design of a flood closure device using an inflatable Obermeyer type gate structure which would be used to obtain FEMA 100-year accreditation for the Smith Canal, Stockton, CA. Work involved hydrologic, hydraulic, geotechnical, and structural analysis and preparation of a conditional letter of map revision for FEMA.

Feather River Early Implementation Project – Sutter Butte Flood Control Agency. Project engineer for design and analysis of alternatives for improvements to the Feather River levees in Sutter and Butte Counties, CA. Work involved geotechnical analysis, design of alternatives, cost estimating and selection of a preferred alternative for consideration by DWR for EIP funding.

San Joaquin Delta Base Flood Elevation Refinement Stage Frequency Analysis - San Joaquin Area Flood Control Agency. Project engineer for the analysis and manipulation of tide gage data to correct historical data for datum, subsidence, and sea level rise to determine the base flood elevations for the City of Stockton.

Byron Tract Base Flood Elevation Refinement - Reclamation District No. 800, Discovery Bay, CA. Project engineer for the stage frequency analysis and manipulation of tide gage data to correct historical data for datum, subsidence, and sea level rise to determine the base flood elevations for Byron Tract.

WATER SYSTEMS DESIGN & PLANNING

Karnak Pump Station Erosion Repair and Debris Screen Retrofit Project – Reclamation District 1500, 2018-Present. Project Manager for the planning, design, environmental, permitting and construction of a new automatic debris removal system and new sheet pile wall at the Karnak Pump Station facility. The Karnak Pump Station pumps drainage water from the main canal that drains lands in the RD 1500 basin into the Sutter Bypass. The project consists of the installation of approximately 400-ft. of new sheet pile wall to remediate erosion of the existing canal bank and the installation of a new automatic debris removal system to replace the existing debris screens located upstream of the pumps. The automatic debris removal system includes new HDPE trash screens along with a new trash raker system provided by Hydro Component Systems to clean and transport accumulated debris from the trash screens to a designated dump area. The work is being completed as part of a FEMA Hazard Mitigation grant.

HYDROLOGY & HYDRAULICS

Robbins & Meridian BFE Floodplain Mapping – Sutter County, CA 2010. Project engineer in charge of developing BFE estimates for both the Robbins and Meridian Basins using HEC-RAS, FLO-2D and ArcGIS software. First, four hypothetical levee breach scenarios were simulated using HEC-RAS to produce escaping flow hydrographs. The escaping flow hydrographs were then input into FLO-2D models of the basins in order to delineate the floodplain. The analysis was utilized to update Sutter County floodplain GIS maps and to provide BFE estimates to FEMA.

Feather River West Levee Project – Sutter Butte Flood Control Agency, Yuba City, CA, 2010-Present. Assisting with project development, preliminary design, developing hydraulic basis for assessment district formation and assistance with Proposition 218 election process, public outreach, and preparation of Prop 1E EIP design grant documents. Analyzed recommended improvement alternatives, reviewed levee performance history, developed design water surface profiles, and analyzed available freeboard for the design of the Feather River West Levee Project (FRWLP). The goal of the FRWLP is to provide 200-yr flood protection for the urban and urbanizing northern portion of the Sutter-Yuba City Basin. The FRWLP includes rehabilitation of the entire 44-mile Feather River levee from the Thermalito Afterbay downstream to the Sutter Bypass. Design alternatives include setback levees, cutoff/slurry walls, stability berms, seepage berms and relief wells.

CERTIFICATION OF LEVEE SYSTEMS

FEMA Levee Accreditation for the Bear Creek System, San Joaquin Area Flood Control Agency (SJAFC), Stockton, CA, 2015-17. PBI was the lead consultant for the submittal of the full accreditation package according to FEMA criteria identified in 44 CFR 65.10 for 35 miles of levees in the Bear Creek levee system. Specific work included HEC-RAS modeling to determine 100-year water surface profiles, levee freeboard analysis, FLO-2D modeling to determine residual floodplains due to interior drainage,

and a review and evaluation of existing closure structures, embankment protection, and O&M manuals.

FEMA Levee Accreditation for the Calaveras River System, San Joaquin Area Flood Control Agency (SJAFCA), Stockton, CA, 2015-17. PBI was the lead consultant for the submittal of the full accreditation package according to FEMA criteria identified in 44 CFR 65.10 for 20 miles of levees in the Calaveras River levee system. Specific work included HEC-RAS modeling to determine 100-year water surface profiles, levee freeboard analysis, FLO-2D modeling to determine residual floodplains due to interior drainage, and a review and evaluation of existing closure structures, embankment protection, and O&M manuals.

MISCELLANEOUS

Water Connection Fee Update - City of Stockton, CA. Assisted the City of Stockton in analyzing their water system upgrade and expansion needs to support development of a new water connection fee for new development.

Water Rate Study - River Pointe Water System, Waterford, CA. Assisted client in reevaluating water system operations and rate structure and made recommendations for alternative rate structure to offset forecasted system deficits.

North Area Streams Levee Improvement Project, Sacramento Area Flood Control Agency (SAFCA), Sacramento, CA, 2014-Present. Geotechnical improvements were needed for the Arcade Creek and Natomas East Main Drainage Canal (NEMDEC) levees. The prescribed centerline and waterside cutoff walls require removal and replacement of through-levee utilities. PBI's role in this project was to deliver plans, specs, details, and cost estimates for removing and replacing the utilities that were impacted by construction of the cutoff walls. All pipe replacements needed to be designed to standards set by the 200-year Urban Levee Design Criteria (ULDC).

Chlorinator Installation at Well 5 - Sacramento Suburban Water District, CA. Project manager for the installation of a tablet chlorinator. Provided design support for the project

Feather River Sediment Management Project – Sutter Butte Flood Control Agency (SBFC), Yuba City, CA. Providing QA/QC for final design phase documents.

Smith Canal Closure Device – San Joaquin Area Flood Control Agency (SJAFCA), Stockton, CA. Providing QA/QC for final design phase documents.

PROFESSIONAL ENDEAVORS

Peterson Brustad, Inc.
2008 to present
HDR Engineering, Inc.,
1990 to 1995, 1996 to 2008

HYA Consulting Engineers, 1995 - 1996
Aerojet General, 1984-1990

PUBLICATIONS AND PRESENTATIONS

Contributing author, Handbook of Public Water Systems, Disinfection chapter, John Wiley & Sons, Inc., New York, NY, 2001. Also provided quality control review for the Chemical Storage and Feeding Systems chapter.

“Water Storage Tank Repair versus Replacement” presented at the CA-NV Fall AWWA Conference at San Diego, CA (October 10, 2012).

“Residuals Handling Options for Foothill Communities” presented at the CA-NV Fall AWWA Conference at San Diego, CA (October 11, 2012).

“Stage Data Corrections for Gage Subsidence and Sea Level Rise in the Sacramento-San Joaquin River Delta” presented at the 2011 FMA Conference at San Diego, CA (September 8, 2011).

“Designing Membrane Filtration for Concurrent Operation with Conventional Filtration – Yuba City WTP 30 MGD Expansion Experience,” presented at the 2007 AWWA WQTC Conference at Charlotte, NC (November 6, 2007).

Landrum, J.A., and Dave Murbach, Gas to Liquid Chemical Feed System Conversion at Seven Wastewater Treatment Plants, proceedings, Water Environment Federation, Disinfection 2000 conference, March 17, 2000.

Murbach, D., “Decision Tree to Select the Appropriate Drinking Water Disinfectant,” *proceedings*, AWWA, October 1998.

Calmer, John, J.B. Neethling, and Dave Murbach, An Operator’s Guide to Chlorination During Nitrification, *Operations Forum*, Water Environmental Federation, October 1998.

“Gas to Liquid Chemical Feed System Conversion at Seven Wastewater Treatment Plants,” presented at the Water Environment Federation Disinfection 2000 conference (March 17, 2000).

“Chemical Feed Design Considerations for Pump Operation,” presented at the 2000 California Water Environment Association annual conference, Sacramento, CA (April 19, 2000).

“Decision Tree to Select the Appropriate Drinking Water Disinfectants,” presented at the 1999 Arizona Water and Pollution Control Association Annual Conference, Tucson, AZ (May 7, 1999). Also presented at the 1998 AWWA Fall Conference, San Diego, CA (November 3, 1998).

“Chlorine Gas Transition to Sodium Hypochlorite.” Presented at the 1998 Pacific Northwest Pollution Control Association Annual Conference, Portland, OR (October 27, 1998). Also presented at CWEA Annual Conference, Oakland, CA (April 1998) and WEFTEC Conference, Baltimore, MD (April 1998).

“An Operator’s Guide to Chlorination During Nitrification.” Presented at the CWEA Annual Conference, Oakland, CA (April 1998). Also presented at the WEFTEC Conference, Baltimore, MD (April 1998).

“Filtration Avoidance at Lake Tahoe,” poster presentation at the American Water Works Association Water Quality Conference, San Francisco, CA (November 1994).

“QA/QC Procedures for Stormwater Composting,” presented at the Annual American Water Works Association Conference, Anaheim, CA (October 1993).



Education

B.S. Environmental Engineering,
California Polytechnic State
University, San Luis Obispo,
2013

Registration

Registered Professional Engineer,
California No. 89449

D2 Water Distribution Operator

T2 Water Treatment Operator

Specialized Training

AutoCAD Civil 3D
ESRI ArcGIS
SCADA
Hydraulic Modeling

EXPERIENCE

Tim has over eight years of experience and recently joined the PBI team in 2020. Tim worked for a water utility for over seven years where he developed a history of successfully managing and leading project teams from planning through construction completion of capital projects and programs, including planning, design, permitting, construction, and commissioning. Relevant projects that Tim has supported are as follows:

WATER STORAGE AND PUMPING FACILITIES

Water Supply Project – Northern California Tribe. The first task for this project was the preliminary and 30% design of a floating intake and approximately 1.2 miles of water transmission main. The preliminary design report confirmed design criteria and identified recommended improvements. The 30% design was completed and a construction cost estimate was provided to the Tribe for the proposed improvements. Project includes the design of a 30,000 gallon/day water treatment plant, two water storage reservoirs (approximately 500,000 gallons each), one break tank, and one clearwell. The sizing of these facilities will be based on updated water demands and allow for the preparation of a preliminary design report to determine the design criteria for this project. Additionally, PBI will investigate the viability of pumping groundwater to the Tribal property in order to meet its immediate needs for drinking and fire suppression water until the planned Water Supply Project becomes on-line. An assessment will be made of the viability of utilizing the Tribe's existing wells and if necessary, design, permit, and locate additional wells including recommending the location for drilling additional wells and integrating the new wells into the existing water distribution system. An assessment will also be made of the general condition, water quality, and capacity of existing wells. Project includes permitting support for new and/or refurbished wells.

Capehart Tank Structural Analysis and Condition Assessment – Sacramento Suburban Water District (SSWD), Sacramento, CA. 2022 – Present. PBI provided a technical memorandum summarizing the peer review of the Capehart Tank structural analysis to determine if the reservoir meets current code requirements. Provided recommendations for rehabilitation of Capehart 150,000 gallon elevated water storage tank to improve structural components of the reservoir. The condition assessment is being done to provide a detailed reservoir evaluation of the interior (lining), exterior (paint) coatings, etc. Findings are being summarized in a report including rehabilitation recommendations and preliminary cost estimates for improvements.

Meadowbrook IMG Tank and Booster Pump Station – California American Water (Cal Am), Sacramento, CA. 2022 – Present. Cal Am's Meadowbrook Water System currently includes no storage; operational capacity is adequate, but peak hour demand equalization and maximum fire flow standards are not being provided in accordance with Title 22. To meet both Title 22 requirements and Cal Am planning criteria, a 1 million gallon (MG) storage tank and booster station (Facility) is necessary. The new facility will include a 1 MG welded steel storage tank and 2,000 gallon per minute (gpm) booster station (two 1,000 gpm pumps and two 500 gpm pumps) located at the existing Well 4 site. The scope of services includes the development of a set of improvement plans and specifications for a fully operational facility. This project includes structural, electrical, and geotechnical services. Bid and permitting support services are also included.

Monte Vista Tank Replacement Project – Placer County Water Agency (PCWA), Auburn, CA. 2022 – Present. The Agency has identified an existing redwood tank in the Monte Vista water distribution system that needs to be replaced with a new welded steel storage tank. The current capacity of the existing Monte Vista tank is 60,000 gallons. The Agency desires additional storage capacity at Monte Vista, therefore our design will be based on providing one 100,000 gallon capacity tank at Monte Vista. The Monte Vista tank site is owned by the Agency as well as an adjacent parcel to the existing tank site,

which is adequate for locating one new 100,000 gallon tank and a second future 100,000 gallon tank. This project includes bid support and construction support.

Roseville Road Water Storage Tank and Pumping Station – Cal Am, Citrus Heights, CA. Provided project management services for siting study, design, permitting assistance, public outreach, bidding, and construction management and inspection services for new 1.7 million-gallon (MG) welded steel water storage reservoir, 3,000 gpm booster pumping station, perimeter wall, and treated water distribution pipeline. Services during construction included inspection of foundation, welding, and coating during construction. The pump station operates in conjunction with a 2 MG water storage tank previously designed.

Isleton Water Storage Tank and Pump Station – California American Water, Sacramento, CA. Owner's Project Manager for the planning, design, permitting, bidding, construction, and commissioning of a 0.2 MG storage tank and pump station. The project design included: a glass lined bolted steel storage tank and pump station (both with auger cast pile foundations), electrical and controls equipment, elevated electrical equipment shade structure for installation of equipment above the design flood level, 15,000-gallon hydropneumatic tank, pump-to-waste piping, site piping, and mechanical and controls integration with the site's existing arsenic treatment plant.

Walnut Grove Water Storage Tank and Pump Station – California American Water, Sacramento, CA. The project included the planning, design, permitting, bidding, construction, and commissioning of a 0.2 MG storage tank and pump station. The project design included: a glass lined bolted steel storage tank with auger cast pile foundation, pump station, electrical and controls equipment, hydropneumatic tank, site piping, and mechanical and controls integration with the site's existing facilities.

Engineering Services for Condition Assessment of Watt-Elkhorn Reservoir – Sacramento Suburban Water District (SSWD), Sacramento, CA. 2021 – Present. PBI is providing a detailed condition assessment of the 5M gal Watt-Elkhorn Reservoir. The purpose of this condition assessment will be to conduct a detailed tank evaluation of the interior and exterior coatings, cathodic protection (CP) system, and structural components. The coatings evaluation will include a thorough inspection to evaluate the condition of the interior and exterior coating systems and note the level of visual degradation present and any other defects. The CP system will be assessed and recommendation(s) provided for rehabilitation. The detailed structural evaluation of the tank will include non-destructive testing (NDT) of plate thickness and welds, and will be based on current standards as set forth in AWWA D100-11 – Welded Carbon Steel Tanks for Water Storage.

WATER DISTRIBUTION AND PIPELINES

Vista Burns Backyard Main Replacement Project – California American Water (Cal Am), Sacramento, CA. 2022 – Present. The Vista Burns Backyard Main Replacement Project includes the installation of approximately 13,700 feet of new front yard water mains, associated meters, and related appurtenances. Design services include: field survey, design document preparation, and preparation of permitting documentation for the encroachment permit and Department of Drinking Water (DDW) variance request letter for pipeline crossings and separations. This project was identified as next in line by utilizing historical main break records in combination with input from operations staff.

Liz Taylor Flume – PCWA, Auburn, CA. 2022 – Present. The Liz Taylor flume is on RR property and thus requires an easement to complete the work. PBI is performing and providing hydraulic calculations to show that invert siphon, demo plan of existing flume, Inlet and outlet structures as well as blow off and manway access hatch at low spot in siphon. Plan and Profile of new piped portion, Plan set to be submitted to UPRR for approval. Project includes survey and permitting assistance.

2020 Priority Mains Replacement Project - California American Water, Sacramento, CA. Project manager for design services to install new front yard mains with new front yard services and meter boxes for the Sampson-Dewey project area. Design includes specifications and drawings for approximately 13,500 feet of new front yard mains, associated services and meters, and related appurtenances. Project includes field survey, proposed utility crossings and Department of Drinking Water variance approvals, permitting support, and bid and construction support services.

2021 Backyard Main Replacement Project - California American Water, Sacramento, CA. Project manager for design services to relocate backyard mains and services to front yard. New front yard mains include service laterals, meters and boxes, hydrants, and related appurtenances. Design includes specifications and drawings for approximately 15,500 feet of new water mains and 330 service laterals and meter installations. Project includes field survey, proposed utility crossings and Department of Drinking Water variance approvals, encroachment permit and permitting support, and construction support services.

Fruitridge Vista Meter Replacement Project - California American Water, Sacramento, CA. Project manager for design of approximately 575 meters to be installed at those services that already have front yard service lines. Design of approximately 575 drop-in meters and 570 new front yard service connections as conversions from back yard mains. Design documents include drawings and specifications. Project includes identification and support of permitting needs including County Encroachment permit for new front yard service connections. Project includes engineering services during construction including: bid support, submittal review, RFI review, and preparation of As-Built drawings.

Isleton Distribution System Improvements – California American Water. Established methods required to abandon in-place water pipes in levee. Designed plans and specifications for the construction of new pipelines and water service connections through levee. Coordinated and supported permitting efforts with descriptions and figures to obtain all necessary permits. Provided engineering support during bidding and construction.

Mosquito Ridge Road to Thomas Street Pipeline Project - Foresthill Public Utility District (FPUD). Design of 6,200 feet of replacement pipeline along Foresthill Road between Mosquito Ridge Road and Thomas Street. Includes 600 feet of replacement pipeline along Sierra View Lane. Improvements will include all necessary valving, separation, hydrants, and service connections to all allow the District to abandon the existing main. Includes the development of a set of improvement plans and includes providing a complete set of written construction specifications for the proposed pipeline. Project includes: survey services, bidding support, and construction management services.

WELLS

Cottage Way Well Improvements Project - California American Water, Sacramento, CA. PBI is providing design services for below and above ground improvements for a new well site. Below ground design included water, sewer, and storm drain pipelines for connection to existing utilities. Above ground design included wellhead piping, pump-to-waste, hydropneumatics tank, chemical feed, standby generator, all electrical and instrumentation, site drainage and paving, and perimeter CMU wall and gate. Managed extensive permitting efforts and public outreach including: County of Sacramento permits (Use permit, Building Permit, SIPA), Department of Drinking Water variances and coordination, and communications with adjacent property owners for project coordination approval and property acquisition

Fruitridge Vista Water System 2021 Backyard Drop-In Meters – Cal Am, Sacramento, CA. 2021 – Present. PBI provided the design of approximately 330 backyard and front yard drop-in water meters and new service laterals. The project includes: the development of design plans and specifications, permitting, and bid assistance. Project is currently in construction and PBI is providing construction support services.

Fruitridge Vista Well #14 – Above Ground Improvements Design Services – Cal Am, Sacramento, CA. PBI is providing all above ground equipment necessary to rehabilitate the existing well. The improvements will include: block wall fencing, new pump and motor and mechanical piping, new well pad and pedestal, new hydro-pneumatic tank, new generator, and new electrical panel and controls. The scope of services includes the development of a set of improvement plans for the removal and replacement of all above ground facilities and includes providing a complete set of written construction specifications for equipping the well.

Hurley Way Well Initial Design – California American Water, Sacramento, CA. Cal Am is installing a new well within the Encina High School property and adjacent to Hurley Way. PBI is supporting the above ground and frontage improvements for the proposed well site in a phased approach including: storm drain extension from proposed site to existing storm drain, sewer service extension, water main extension, site plan development, and well site permitting support.

Wildrose Well Storm Drain Design – California American Water, Sacramento, CA. PBI is developing plans and specifications adequate for the construction of the Wildrose Well Storm Drain. Project includes engineering support during bidding and construction and permitting support services.

Dunnigan System – New Well Above Ground Design Services- California American Water, Sacramento, CA. PBI is providing all above ground equipment necessary to bring the well, designed and constructed by others, into service. The scope of services includes the development of a set of improvement plans for equipping the newly constructed well and includes providing a complete set of written construction specifications for equipping the well. PBI is coordinating directly with operations staff, engineering staff, water quality staff, procurement agent, equipment suppliers, SMUD and any other parties involved with the implementation of the proposed improvements.

Westporter Well Storm Drain Design and Site Improvements – Cal Am, Sacramento, CA. PBI is providing design services for the Westporter Well storm drain and site improvements. Design includes an upsized storm drain connection from the well site to the existing storm drain located within Westporter Drive. The design services also include design drawings necessary for the construction of a new ASME code rated 5,000 gallon hydropneumatic tank and relocated chemical building. Project includes engineering services during construction and permitting support services.

WELL REHABILITATION AND DESIGN

Middle Meadows Campground Vertical Well Design Project - Placer County Water Agency (PCWA) - Project includes siting the new well and developing performance specifications so that the *new* well can be drilled, constructed, developed, and tested for capacity and water quality. Well pump and piping will be designed for the well's capacity, lift, and required discharge pressure. Includes developing specifications for a precast concrete building on site to house the well, pump, controls, and storage of the power system in the off season. Approximately 2,000 feet of 2-inch pipeline will be replaced between the well and storage tank as well as between the storage tank and the access road. A solar power system will be designed to operate the well.

Countryside Way Well Above Ground Improvements - California American Water (Cal Am), Sacramento, CA. 2022 – Present. PBI is to provide both new above ground equipment and modifications to existing equipment to provide for a fully operational well site. The scope of services includes the development of a set of improvement plans,

supplemented with written construction specifications, as necessary. The plans and specifications will include new improvements and modifications to existing equipment. Above ground improvements for the well site rehabilitation will include: a new 10,000 gallon hydropneumatic tank and appurtenances, new above ground welded steel water pipe and appurtenances, a new slab foundation for the diesel generator, new well site instrumentation and electrical and control , site security, relocation of the existing chlorine building, demolition and removal of existing site mechanical, electrical, and control equipment.

Suburban-Rosemont Water System Well Siting Study – Cal Am, Sacramento, CA. 2022 – Present. The Suburban-Rosemont Water System has a total of 26 active wells within the service area as categorized by the Department of Drinking Water (DDW). The service area relies primarily on groundwater from the South American River Basin, and multiple wells within the system are threatened by the Aerojet, Inactive Rancho Cordova Test Site (IRCTS), and Mather Air Force Base contaminant plumes. A study will be conducted to analyze various potential new well sites in order to determine the most suitable locations for initial replacement wells. Cal Am will utilize the existing water system hydraulic model to analyze system pressures and operational impacts for recommended well site locations.

Silver Lake Campground Well Design - El Dorado Irrigation District (EID), Placerville, CA. 2021 – Present. Project includes improvements at the existing well site as well as construction of a new pipeline. New 5 gpm submersible pump, powered by solar panels and a backup battery, will be installed in the existing well. Project includes new CMU building to be constructed adjacent to the well to house a 3,000 gallon storage tank, storage space for the solar panels and back-up batteries. A distribution line will be installed from the well site to the two campgrounds. project includes approximately 2,500' of 2" HDPE water line along the existing dirt road and Highway 88

Well N10 Walnut Pump Replacement - Sacramento Suburban Water District (SSWD), Sacramento, CA. 2021 – Present. Well N10 was rehabilitated in 2020 and subsequent pump tests concluded that the well capacity was increased by approximately 14 percent after the rehabilitation. The district is looking to identify a replacement motor and pump that can return the well to its original capacity. PBI is currently developing bid documents for converting the well to a vertical turbine pump will be necessary to accommodate the PWL at the desired capacity. Design documents will provide for the removal of the existing pump and installation of the new pump. Project includes bidding and construction support services.

Well 30 Condition Assessment - Sacramento Suburban Water District (SSWD), Sacramento, CA. 2021 – Present. Well N30 has a history of water quality concerns primarily related to taste and odor. PBI is performing a condition assessment to define the condition of the existing well and either identify recommended rehabilitation efforts or determine if the well is beyond its useful life and should be abandoned.

WATER PLANNING

Recycled Water Master Plan Update and Hydraulic Model, City of Folsom, CA. Project Manager. Updated the 2015 Folsom Plan Area (FPA) Non-Potable Water Analysis 2.0 (2015 Analysis) in conjunction with developing a hydraulic model for the non-potable water distribution system. The Plan will include evaluation and sizing for existing infrastructure and planned backbone infrastructure.

Water Master Plan for Antelope System - California American Water (Cal-Am), Sacramento, CA. Prepared a water system master plan for Cal-Am's Antelope system, which consisted of approximately 15 wells and over 12,000 service connections. Hydraulic model of the water distribution system was developed and calibrated.

WATER TREATMENT PLANTS

West Point Water System Supply Reliability Project – Calaveras County Water District, San Andreas, CA. Raw water is treated at the West Point Water Treatment Plant (WTP) by a single train Microfloc/Trident clarifier-filter unit that was originally manufactured in 1994 and installed in 2001. The Trident unit is the District's only usable means of providing treatment at this time and is at risk in the event of a mechanical failure. The District is equipping the existing facility with a new parallel treatment system to provide reliability and redundancy. PBI is designing the second treatment unit, including all necessary site work, demolition, modifications to the existing metal building and/or other structures, construction of associated piping, valves, pumps, tanks, chemical systems, SCADA, electrical and instrumentation.

FLOOD CONTROL PLANNING AND DESIGN

Lake Isabella Dam Project – USACE Sacramento District, Stockton, CA, 2022-Present. The Lake Isabella Dam is being modified to meet dam safety requirements. In order to accommodate the added filter and drain layers as well as the increase in Main Dam height, a portion of the Main Dam Campground owned by the US Forest Service (USFS), immediately downstream of the Main Dam will become part of the dam structure. As a result of this, the Main Dam Campground will be revised, including: revised individual camp site layout, new hose site, demo existing toilets, dump station, underground tanks, add new vault toilets, septic tank, paved parking lot, provide new electrical and water service, add or update picnic tables, fire rings, shade structures, grills, remove dead trees, and demo existing oxidation pond and regrade/vegetate. PBI is preparing plans, specifications, design documentation report (DDR), engineering considerations and instructions for field personnel (ECIFP), and MII estimates for the improvement features of this project. This scope of this design task includes all survey, civil, mechanical, structural, electrical, landscape architectural and cost estimating elements, as well as environmental and cultural monitoring during field activities.

SALES & BUSINESS DEVELOPMENT ENGINEER

AqueoUS Vets, Roseville, CA, January 2020 - December 2020.

AV is a systems integrator that specializes in the design, manufacturing, installation, and commissioning of water treatment systems for potable and remediation sites.

Manage existing client relations and develop new business opportunities throughout Northern California, Nevada, Oregon, Washington, and Idaho.

Support owners, design firms, and contractors throughout all project phases, including pilot testing, system design, and specification development for Granular Activated Carbon and Ion Exchange treatment systems.

Prepare technical, budgetary, and firm proposals for clients, including filter systems, piping, and various Technical Partner equipment (i.e. chemical feed, reservoir mixing, etc).

Prepare material and conduct presentations for individual clients, project teams, webinars, and conferences.

Updated management on market conditions, industry trends, and competitive activities.

PROJECT MANAGER, ENGINEERING- PROJECT DELIVERY

California American Water, Sacramento, CA, 2014 – 2020.

California American Water, a subsidiary of American Water, is an investor-owned regulated utility providing potable water and wastewater services to approximately 690,000 customers throughout its California Districts.

Manage capital improvement projects and recurring programs, including planning, design, permitting, construction, and commissioning.

Lead team members to successful project completion, including co-workers, consultants, contractors, inspectors, and other stakeholders.

Oversee engineering efforts, review consultant and developer plans and specifications for conformance with Owner standards, and review submittals and Requests for Information during construction.

Determine, monitor, and control project budgets from kick-off to completion.

Direct and assist with planning study preparations for both short- and long-term infrastructure improvements and new developments, including the development of detailed project justifications and cost estimates.

Analyze existing system operations, determine the cause(s) of issues and challenges, and recommend operational adjustments and/or capital projects.

Prepare RFP's, RFQ's, and bidding documents, provide award recommendations, and negotiate change order requests.

Assist Executive Leadership and Rates Team with Public Utility Commission General Rate Case application preparation and data requests.

Develop and maintain strong working relationships with government agencies, community members, and developers for project coordination efforts and stakeholder acceptance.

PROJECT ENGINEER

E2C Remediation, Roseville, CA, 2013 – 2014 (2012 Summer Internship).

E2C is a full-service environmental remediation company, performing consulting, soil and groundwater remediation, and construction services throughout California.

Managed 8 UST Cleanup Fund sites, conducting both field groundwater and soil vapor sampling activities and preparing monitoring and remediation status reports.

Analyzed site characteristics, prepared corrective action work plans, and assisted with the implementation, monitoring, and maintenance of remediation systems.

Performed field observations, site research, and prepared reports for Phase I/II Environmental Site Assessments.

Provided construction oversight for a sulfur mine remediation and creek restoration project, ensuring construction was in conformance with the plans and specifications.

STAFF ASSISTANT

Graton Community Services District, Sebastopol, CA, 2011 Summer Internship.

The District is a local government agency dedicated to operating and maintaining the wastewater treatment facilities serving approximately 1,700 customers.

Assisted operators with plant operations and maintenance.

Collected daily water samples at various plant locations and performed laboratory analyses.

CONTINUING EDUCATION

PROJECT MANAGEMENT CERTIFICATE PROGRAM

California State University, Sacramento (2016)

UTILITY RATE SCHOOL

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

39TH Annual Western, San Diego, CA (May 2018)

VOLUNTEER EXPERIENCE

ENGINEERS WITHOUT BORDERS- THAILAND PROJECT TEAM

Cal Poly, San Luis Obispo, CA (2011 – 2013)

Designed, constructed, and maintained multiple variations of cost-effective anaerobic digesters, with a Team vision to introduce a successful model to villages in Thailand and train residents how to build, operate and maintain additional units.

TRAVIS MCFERON, PE, SE

President and CEO

Travis is President and CEO at PSE and has over 20 years' experience, much of which is centered on PSE's reservoir and pump station work the Pacific Northwest. Travis' tank design experience is extensive, ranging from new designs to existing tank rehabilitations of various tank types including welded steel and bolted steel, prestressed concrete and reinforced concrete. Travis' experience includes over 200 reservoir assessment, retrofit and design projects

Relevant Experience

City of Poway, (2) 4.0 MG Prestressed Concrete Tanks, Poway, CA

PSE was contracted for the design of two (2) new 4.0 MG circular, prestressed concrete tanks for the City of Poway to replace an aging 10 MG concrete lined hopper style clearwell reservoir constructed in 1964. A floating cover was added to the existing reservoir in 1983 and replaced with a new floating cover in 1998. The new tanks are at-grade, have an inside wall diameter of 204-ft, wall height of 20.5-ft, and will have a concrete column supported two-way concrete slab roof. The tank design will be in conformance with AWWA D110 - Type I Core Wall, ACI 350, and ASCE 7-22. In addition to design of the prestressed concrete tanks, PSE is also designing two cast-in-place concrete vaults and retaining walls.

Town of Hillsborough, Darrell (2.0 MG) Prestressed Concrete Tank, Hillsborough, CA

PSE was contracted for the design of a new 2 MG prestressed concrete tank to replace two existing, aging 0.5 MG welded steel tanks for the Town of Hillsborough. The new tank is an at-grade prestressed concrete structure (AWWA D110, Type I) located adjacent to the San Andreas Fault. The large seismic accelerations expected at the site resulted in a calculated slosh wave height of 9-feet and required the tank design to incorporate a deep keyway to address global sliding stability. The new tank is in a residential neighborhood which limited the overall height of the tank to 24-feet to minimize visibility, requiring tie-down cables between the wall top and roof to address the uplift pressure from the slosh wave.

Lake Arrowhead CSD, Spyglass (0.4MG) Prestressed Concrete Tank, Lake Arrowhead, CA

PSE was contracted for the design of a new 0.4MG prestressed concrete tank for the Lake Arrowhead Community Services District to replace an existing aging 0.3MG steel tank which was constructed in 1972. The new tank is prestressed concrete (AWWA D110, Type I) and partially backfilled on one side to minimize retaining wall construction. As such, design of the tank required sliding stability measures.

City of San Diego, South San Diego Reservoir (Two 7.5 MG) Replacement, San Diego, CA

PSE provided the predesign of two 7.5 MG prestressed concrete reservoirs to replace the City of San Diego's existing 15 MG South San Diego reservoir. The existing reservoir consists of a rectangular reinforced concrete structure with a deteriorating wood roof. PSE is providing detailing for the new reservoirs' structural members including establishing design criteria and corresponding thicknesses for the floor, footings, walls, columns, roof, and freeboard as well as providing engineer's estimates.

Laguna Honda Hospital Water Tank Replacement, San Francisco, CA

PSE is providing structural design services for a new tank to serve the Laguna Honda Hospital in San Francisco. The new tank will replace the existing Water Tank II and is designed to be an AWWA D100, ground-supported, welded steel storage tank with a capacity of 300,000 Gallons. PSE's scope of work includes structural design of the steel tank, foundation, anchorage, and structural detailing support for appurtenances, life-safety equipment, and access equipment. PSE is also working closely with the project team to coordinate and provide structural design guidance related to the tank siting, dimensions, security and aesthetics.



EDUCATION

MS Civil Engineering, Portland State University

BS Civil Engineering, Portland State University

YEARS EXPERIENCE

22

REGISTRATIONS

Professional Engineer: OR, WA, CA, CO, GA, HI, MA, MI, NC, VA, TX, UT

Structural Engineer: OR, WA, CA, HI, UT

MEMBERSHIPS

Structural Engineers Association of Oregon

American Council of Engineering Companies

American Society of Civil Engineers

American Water Works Association

American Institute of Steel Construction

NCEES Structural Committee

City of Everett, Reservoir No. 2 Replacement (Two 2.5 MG), Everett, WA

PSE provided structural design of two new 2.5 MG AWWA D110 Type 1 tanks to replace Reservoir 2, an aging 10 MG open reservoir on the same project site. Scope also included support for improvements to Reservoir 4, which catches both the overflow and the drain lines from Reservoir 2, as well as a new CMU storage building with a bridge crane. PSE will also be providing support through construction.

Bolton (4.0MG) Reservoir Replacement, City of West Linn, OR

PSE designed this 4.0 MG AWWA D110 reservoir in a residential neighborhood on a challenging slope of an ancient landslide. The new reservoir replaced an existing open-air basin reservoir within the existing footprint. Working closely with a geotechnical engineer on this confined site with tight access and steep slopes, sub-grade improvements were made to address the challenging subsurface conditions.

King County Water District, Burien (3.7 MG) Reservoir, King County, WA

PSE provided structural design for the construction of this new 3.7 MG Type 1 prestressed concrete water reservoir for King County Water District No. 49. Also included in this contract was the design of a CMU pump station structure, backup generator power unit and foundation design for monument signage.

City of Kennewick, 18th and Kellogg (6.0 MG) Reservoir Replacement, Kennewick, WA

PSE provided pre-design and design of a 6.0MG Type 1 prestressed concrete water reservoir to replace the existing reservoir on the project site. The project also includes an associated CMU pump station building, four cast-in-place concrete vault structures, retaining walls and a stair tower. Additionally, PSE is providing construction support services for this project.

City of Enumclaw, Reservoir Replacement (3.0 MG), Enumclaw, WA

PSE designed a new, seismically secure 3.0 MG prestressed concrete reservoir to replace an aged existing Pritzker style reservoir that was found to be inadequate to meet current standards. PSE worked with the civil engineer and the Owner to evaluate different reservoir sizing and geometry options to optimize the storage capacity and future needs of the water district.

City of West Linn, Bolton (4.0 MG) Reservoir Replacement, West Linn, OR

PSE designed this 4.0 MG AWWA D110 reservoir in a residential neighborhood on a challenging slope of an ancient landslide. The new reservoir replaced an existing open-air basin reservoir within the existing footprint. Working closely with a geotechnical engineer on this confined site with tight access and steep slopes, sub-grade improvements were made to address the challenging subsurface conditions.

City of Redmond, Pressure Zone 1A (4.0 MG) Reservoir and Pump Station, Redmond, OR

PSE provided structural engineering design and construction services for a new 4.0 MG prestressed concrete AWWA D110 Type 1 reservoir and a new CMU pump station. The reservoir has an inside diameter of 188'-6" and a wall height of 22'. The reservoir design incorporated seismic detailing at the wall base and top, unique to the circular prestressed concrete tank design. Design coordination elements included excavation and backfilling to provide a buried structure which best utilized the selected site, seismic design to meet the site specific design earthquake criteria, as well as specifications to ensure appropriate contractor experience in liquid-tight prestressed concrete tank construction.

Cooper Mountain (5.5 MG) Reservoir No. 2, City of Beaverton, OR

Conсор, PSE provided structural design for the construction of a new 5.5 MG Type 1 prestressed concrete reservoir and associated CMU pump station for the City of Beaverton. For this project PSE worked with our civil prime to design both a Booster Pump Station and an Aquifer Storage Recovery building. Both CMU buildings involved piping coordination and complex trench foundation design. PSE also performed construction services through the completion of the project, including value engineering while coordinating with the contractor.

Cascade Reservoir No. 2 (6.0 MG) Reservoir, Rockwood Water PUD, Portland, OR

As part of the District's Groundwater Development Package, PSE is providing the design of a new 6.0 MG prestressed concrete reservoir as part of the Conсор project team. Cascade Reservoir No. 2 will be a fully above-ground reservoir. When completed, the 66-foot reservoir will be the tallest AWWA D110 tank on the West Coast. The project also included design of a masonry well house, a site washdown facility and material storage bins. Our scope included services from design through construction and project closeout.

Portland Water Bureau, Forest Park (1.3 MG) Low Tank Reservoir and Pump Station Design, Portland, OR

PSE was the structural design subconsultant for this complex project on a challenging site. The fully buried 76' diameter by 45' tall 1.3 MG prestressed concrete reservoir was designed to address extremely confined site issues while minimizing the visual impact to the residential neighborhood. Because volcanic scoria was discovered underneath the site, close consultation with geotechnical and civil engineers was required to develop temporary shoring and foundation support options.

TOM BLOOMER, PE

Senior Associate Engineer

With over 25 years of water/wastewater industry experience, Tom serves as a Senior Associate Engineer at PSE. Tom brings the depth and breadth of working on planning, specifications, estimating, design and/or construction of more than 350 circular prestressed concrete tanks in the Western United States including new tank designs, tank rehabilitations, and tank assessments. Tom is especially well versed with designs in high seismic regions. As a voting member of American Water Works Association's Standard D110, Wire- and Strand-Wound, Circular, Prestressed Concrete Water Tanks he is able to keep current on requirements for the design and constructability and ensure our clients benefit from this information. Additionally, Tom's familiarity with construction allows him to work in a collaborative manner with contractors to provide cost-effective and proven solutions in a timely manner.

Project Experience

City of Poway, (2) 4.0 MG Prestressed Concrete Tanks, Poway, CA – Project Manager

PSE was contracted for the design of two (2) new 4.0 MG circular, prestressed concrete tanks for the City of Poway to replace an aging 10 MG concrete lined hopper style clearwell reservoir constructed in 1964. A floating cover was added to the existing reservoir in 1983 and replaced with a new floating cover in 1998. The new tanks are at-grade, have an inside wall diameter of 204-ft, wall height of 20.5-ft, and will have a concrete column supported two-way concrete slab roof. The tank design will be in conformance with AWWA D110 - Type I Core Wall, ACI 350, and ASCE 7-22. In addition to design of the prestressed concrete tanks, PSE is also designing two cast-in-place concrete vaults and retaining walls.

Town of Hillsborough, Darrell (2.0 MG) Prestressed Concrete Tank, Hillsborough, CA – Project Manager

PSE was contracted for the design of a new 2 MG prestressed concrete tank to replace two existing, aging 0.5 MG welded steel tanks for the Town of Hillsborough. The new tank is an at-grade prestressed concrete structure (AWWA D110, Type I) located adjacent to the San Andreas Fault. The large seismic accelerations expected at the site resulted in a calculated slosh wave height of 9-feet and required the tank design to incorporate a deep keyway to address global sliding stability. The new tank is in a residential neighborhood which limited the overall height of the tank to 24-feet to minimize visibility, requiring tie-down cables between the wall top and roof to address the uplift pressure from the slosh wave.

Lake Arrowhead CSD, Spyglass (0.4MG) Prestressed Concrete Tank, Lake Arrowhead, CA – Project Manager

PSE was contracted for the design of a new 0.4MG prestressed concrete tank for the Lake Arrowhead Community Services District to replace an existing aging 0.3MG steel tank which was constructed in 1972. The new tank is prestressed concrete (AWWA D110, Type I) and partially backfilled on one side to minimize retaining wall construction. As such, design of the tank required sliding stability measures.

El Dorado Irrigation District, Reservoir 12 A & B ((2) 4.2 MG) Reservoir, Cameron Park, CA –Project Manager

Two new 4.2 MG circular prestressed concrete potable water tank designed in conformance with AWWA D110, ACI 350 and the California Building Code. The project delivery method was design-build. The tank is at-grade and has an inside wall diameter and wall height of approximately 200 ft dia and 20 ft, respectively. Tom was responsible for managing the development of the preliminary design for the project, construction estimates, and specifications.



EDUCATION

BS, Civil Engineering, San Diego State University

YEARS EXPERIENCE

26

REGISTRATIONS

Professional Engineer: CA

MEMBERSHIPS

American Water Works Association (AWWA)

»Standard D110 Voting Member

American Water Works Association (AWWA)

»Standard D108 Voting Member

Tau Beta Pi Life Member

Modesto Irrigation District, #11 (6.0 MG) and #13 (4.0 MG) Reservoirs, Modesto, CA – Engineering Manager

A new 6.0 MG and 4.0 MG circular prestressed concrete potable water tank designed in conformance with AWWA D110, ACI 350, and the California Building Code. The tanks were constructed at different times. The dimensions of the 6.0 MG tank are approximately 200 ft dia and 25 ft wall height and the 4.0 MG tank is 190 ft and 20 ft, respectively. Tom was responsible for managing the development of the preliminary design for the project, which included optimal tank dimensions, construction estimates, specifications, and minimum dimensions for key structural elements. Tom provided QA/QC and feedback on constructability throughout the design phase as well as during construction.

City of San Bruno, Glenview (2.0 MG) Tank #3, San Bruno, CA – Project Engineer*

A 2.0 MG circular, prestressed concrete potable water tank was selected by the City to replace an existing concrete tank that had reached the end of its service life. The new tank was designed in conformance with AWWA D110, ACI 350 and the California Building Code. The tank is partially backfilled and has a clear span concrete dome. The dimensions of the tank are approximately 110 foot inside wall diameter and 32 foot wall height. Tom was responsible for managing the development of the preliminary design for the project, which included optimal dimensions, addressing differential settlement at the site, construction estimates, specifications, and minimum dimensions for key structural elements. Tom provided QA/QC and feedback on constructability throughout the design phase as well as during construction, where he reviewed shop drawings prior to their submittal.

NAVFAC, Miramar (1.0 MG) Tank (Tank within a Tank), San Diego, CA – Engineering/Project Manager*

Tom was responsible for QA/QC and in field support for a new water storage tank at Marine Corps Air Station Miramar. The outer 1 MG tank is designed as a circular prestressed concrete tank, meeting or exceeding the requirements found in American Water Works Association Standard D110. Unique to this project is a concentric circular concrete tank inside of the outer tank. The inner tank wall is designed as a cast-in-place concrete structure, meeting American Concrete Institute Code 350. The tank is for potable water and is at-grade. Tom was responsible for the QA/QC of the design of the complete tank structure, including the specialty prestressing operations (circumferential and vertical) specified for the tank. Deliverables included shop drawings and calculations. Also responsible for technical support to in-field personnel during prestressing operations.

City of West Sacramento, Two 4 MG Clearwells, West Sacramento, CA – Project Manager/Business Development*

Two new water storage tanks for the City of West Sacramento at their George Kristoff Water Treatment Plant. Each tank has a capacity of 4 MG and are designed as circular, prestressed concrete potable water tanks with Type 1 corewalls and clear span geodesic aluminum domes. The tanks meet or exceed the requirements found in American Water Works Association Standard (AWWA) D110, ASCE 7 and ACI 350. In addition to the unique feature of an aluminum dome, the tanks incorporated a single Hypalon baffle to improve the flow of water from the inlet to the outlet. Tom was responsible for the budget level tank construction estimates, technical specifications and design details for the complete tank structure, including the specialty prestressing operations (circumferential and vertical) specified for the tank.

East Bay Municipal Utility District, 4 MG Tank, Clements, CA – Project Manager/Business Development*

New water storage tank for East Bay Municipal Utility District. The 4 MG tank is designed as a circular, prestressed concrete potable water tank with a Type 1 corewall and a column supported geodesic aluminum roof with a Kynar coating. The tank is designed to meet or exceed the requirements found in American Water Works Association Standard (AWWA) D110, ASCE 7 and ACI 350. Tom was responsible for the budget level tank construction estimates, technical specifications and design details for the complete tank structure, including the specialty prestressing operations (circumferential and vertical) specified for the tank.

Montara Water and Sanitary District, Alta Vista (0.5MG) Tank #2, Montara, CA – Engineering Manager*

A 500,000 circular, prestressed concrete potable water tank was selected by the District to replace an existing steel tank that had reached the end of its usable life. The new tank was designed in conformance with AWWA D110, ACI 350, and the California Building Code. The tank is partially backfilled to reduce visibility to the surrounding community and meet coastal commission requirements. The dimensions of the tank are approximately 60 foot inside wall diameter and 25 foot wall height. Tom was responsible for managing the development of the preliminary design for the project, which included optimal dimensions, construction estimates, specifications, and minimum dimensions for key structural elements. Tom provided QA/QC and feedback on constructability throughout the design phase as well as during construction, where he reviewed shop drawings prior to their submittal.

**Estimated Work Effort and Cost
El Dorado Irrigation District - Bridlewood Tank, Reservoir 4 Tank, and Reservoir 7A Tank Re-Coating Project**

Task No.	Task Description	Project Manager & PIC Karl Brustad	Senior Engineer 3 Dave Murbach	Deputy Project Manager Hannah Dunrud	Senior Engineer 2 Tim Hasler	Staff Engineer 2	Technician	Administrative 4 Ann Dambrosio	PBI Labor	Total PBI Labor (\$)	CSI Services Cathodic Protection	PSE Structural Analysis	PBI Expenses (\$)	Total Cost (\$)
	2023 Rates	\$ 265.00	\$245.00	\$ 205.00	\$ 225.00	\$ 155.00	\$ 135.00	\$ 110.00						
Task 1 - Project Management														
1.1	Project Schedule	2		4					6	\$1,350			\$135	\$1,485
1.2	Project Meetings (Up to 4)	12		12				2	26	\$5,860		\$3,109	\$586	\$9,555
1.3	Monthly Invoices & Progress Reports	6						6	12	\$2,250			\$225	\$2,475
	Subtotal Task 1	20	0	16	0	0	8	44	9,460	\$0	\$3,109	\$946	\$13,515	
Task 2 - Basis of Design Report (BODR)														
2.1	Structural Analysis of Tanks TM	3		6					9	\$2,025	\$20,554	\$25,634	\$203	\$48,415
2.2	Recycled Water System Ops and Improvements TM	2		8		24		2	36	\$6,110			\$611	\$6,721
2.3	Basis of Design Report (BODR)	4	8	16		60		2	90	\$15,820		\$3,150	\$1,582	\$20,552
	Subtotal Task 2	9	8	30	0	84	4	135	\$23,955	\$20,554	\$28,784	\$2,396	\$75,688	
Task 3 - Final Design														
3.1	60% Design Submittal	2	4	19	4	42	8		79	\$13,910	\$665	\$15,026	\$1,391	\$30,991
3.2	90% Design Submittal	3	7	19	7	44	14		94	\$16,690	\$980	\$22,078	\$1,669	\$41,417
3.3	Final Design Submittal	2	4	12	4	20	6		48	\$8,766	\$456	\$10,263	\$877	\$20,360
	Subtotal Task 3	7	15	50	15	106	28	0	221	\$39,365	\$2,100	\$47,367	\$3,937	\$92,768
Task 4 - Regulatory/Environmental Processes & Permitting														
4.1	Permits Support	2		4		8	8		22	\$3,670			\$367	\$4,037
	Subtotal Task 4	2	0	4	0	8	8	0	22	\$3,670	\$0	\$0	\$367	\$4,037
Task 5 - Bidding Support														
5.1	Pre-Bid Conference and Job Walk	3		3					6	\$1,410			\$141	\$1,551
5.2	Respond to Bidder Questions	2	4	8		12		2	28	\$5,230		\$1,050	\$523	\$6,803
5.3	Prepare Addenda	4	4	12		24	12	2	58	\$10,060		\$1,050	\$1,006	\$12,116
5.4	Assist with Analysis of Bids	2		2		2			6	\$1,250		\$1,009	\$125	\$2,384
	Subtotal Task 5	11	8	25	0	38	4	98	\$17,950	\$0	\$3,109	\$1,795	\$22,854	
	COLUMN TOTALS	49	31	125	15	236	38	16	520	\$94,400	\$22,654	\$82,368	\$9,440	\$208,862

TOTAL COST \$208,862

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: PLANNED
Project Name: Water Storage Tank Replacement & Rehabilitation Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

This program consists of targeted replacement and rehabilitation of drinking water storage tanks and reservoirs within the distribution system. The District operates 24 welded steel storage tanks and 7 bolted steel storage tanks, ranging in age from 8 to 58 years of age, most of which were constructed in the last 18 years as part of the District line and cover program. Additionally, the District operates 7 floating cover drinking water reservoirs ranging in age from 26 to 33 years of age. This program is to identify specific tanks and reservoirs to rehabilitate, replace, or upgrade to maintain service reliability throughout the District. This program also includes tank recoating for the welded storage tanks. Program management expenditures identified include prioritizing and designing each tank and reservoir improvement project. Actual replacement and recoating costs for each individual tank and reservoir will be brought to the Board for specific approval.

2024: Reservoir 4 and Reservoir 7A Structural Replacement; Reservoir 7B Exterior Recoating

2025: Cathodic Protection in the 835 Valley View Tank and Oakridge Tanks. Design for Reservoir 6 Tank Replacement; Reservoir 4 and 7 B Recoating

2026: Design for Reservoir 6 Tank Replacement; Rancho Del Sol Tank & Reservoir 5 Tank & EDHWTP Backwash Make Up Tank Recoating

2027: Construction of Reservoir 6 Tank Replacement; Oakridge Tank #1 & Sly Park Hills Recoating

2028: Cathodic Protection in the Outingdale Lower Tank; Oak Ridge Tank #2 Recoating

Basis for Priority:

Life cycle replacement of District assets due to age and degradation.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 16,692,573
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 16,692,573
Project Balance	\$ -	Additional Funding Required	\$ 16,692,573

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design/Planning		\$ 150,000	\$ 450,000			\$ 600,000
Construction	\$ 2,785,670	\$ 2,794,723	\$ 808,360	\$ 6,730,209	\$ 2,973,612	\$ 16,092,573
TOTAL	\$ 2,785,670	\$ 2,944,723	\$ 1,258,360	\$ 6,730,209	\$ 2,973,612	\$ 16,692,573

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$2,785,670
Total	100%		\$2,785,670

Funding Comments:

Project Number:

PLANNED

Project Name:

Recycled Storage Tank Replacement & Rehabilitation Program

Project Category:

Reliability & Service Level Improvements

Priority:

2

PM:

TBD

Board Approval:

Project Description:

This program consists of targeted replacement and rehabilitation of recycled water tanks tanks within the recycled water distribution system. The District operates 4 steel storage tanks, ranging in age from 14 to 21 years of age. This program is to identify specific tanks and reservoirs to rehabilitate, replace, or upgrade to maintain service reliability. This program also includes tank recoating for the welded storage tanks. Program management expenditures identified include prioritizing and designing each tank and reservoir improvement project. Actual replacement and recoating costs for each individual tank and reservoir will be brought to the Board for specific approval.

Basis for Priority:

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 4,172,074
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 4,172,074
Project Balance	\$ -	Additional Funding Required	\$ 4,172,074

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Design/Planning	\$ 75,000	\$ 100,000	\$ 100,000	\$ 100,000		\$ 375,000
Construction/structural	\$ 784,084	\$ 1,088,510	\$ 1,289,340	\$ 635,140		\$ 3,797,074
TOTAL	\$ 859,084	\$ 1,188,510	\$ 1,389,340	\$ 735,140	\$ -	\$ 4,172,074

Funding Sources	Percentage	2024	Amount
Recycled Water FCCs	100%		\$859,084
Total	100%		\$859,084

Funding Comments:

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider awarding a contract to Holt of California in the not-to-exceed amount of \$142,697 for the purchase of a replacement generator and authorize additional funding of \$5,000 in capitalized labor for a total funding request of \$147,697 for the Reservoir 1 Water Treatment Plant Generator Replacement Project, Project No. 23010.01.

PREVIOUS BOARD ACTION

November 14, 2022 – Board adopted the 2023–2027 Capital Improvement Plan (CIP), which included the Reservoir 1 Water Treatment Plant Generator Replacement Project.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 3060 Contracts and Procurement
AR 3061.04 Procurement and Contract Authority

SUMMARY OF ISSUE

The Reservoir 1 Water Treatment Plant (R1WTP) backup power generator has failed, and a complete replacement is necessary. The existing generator was sized for the then-current operational needs nearly 35 years ago and cannot meet the current and foreseeable needs given the ongoing increase in customer demand of our growing community. The new generator is proposed to be sized to handle the full needs of the facility. As a result, an engineered design will be required.

BACKGROUND/DISCUSSION

The generator at R1WTP provides critical backup power throughout the year to maintain the ability to treat water and communicate with remote sites via the District’s Supervisory Control and Data Acquisition (SCADA) network. This connectivity is imperative for the safe operation of the transmission and distribution system overseen by R1WTP.

The current generator at R1WTP was installed in 1989 and has suffered a catastrophic engine failure, requiring complete replacement. Therefore, a rental generator unit is now in place to meet this District’s business needs until it can be replaced.

The increased importance of evaluating the adequately sized replacement is informed by three main reasons: growing needs of the community resulting in increased demand; scheduled installation of the Sly Park Intertie allowing R1WTP to meet demands currently served by Reservoir A Water Treatment Plant during planned and unplanned outages; and Pacific Gas & Electric Public Safety Power Shutoff (PSPS) and Enhanced Powerline Safety Settings (EPSS) programs, which result in more frequent power loss events requiring more frequent and protracted use of backup power.

Staff analysis, as confirmed by consultant evaluation, has determined that the existing failed 350 kilowatts (KW) generator was not adequately sized to run both the blower units for backwashes and the backwash make-up pumps, leading to challenges over the years with repairs to the generator unit ultimately resulting in its complete failure. The District has reviewed the plant power loading and has determined that a 500 KW generator is necessary to adequately power the facility and be able to operate as designed during anticipated operating loads.

The District solicited proposals from the general engineering on-call consultant list and awarded a contract to Herwit Engineering (Hervit) to complete the design for the R1WTP replacement generator. Due to upsizing the generator from 350 KW to 500 KW, the footprint for the new generator will be significantly larger, and larger conduit will be installed from the main control panel. Hervit will also design a replacement automatic transfer switch, which determines when to run on utility or generator power, as the current model is no longer supported. The design is currently scheduled to be bid and brought for Board consideration during spring 2024.

The District contacted Holt of California through coordination with Sourcewell (formerly the National Joint Powers Alliance) to solicit a bid for the replacement generator. Sourcewell administers competitively solicited cooperative contracts, allowing direct purchasing of products, services, and equipment at reduced pre-negotiated prices for more than 50,000 member agencies.

The new generator is anticipated to be shipped in 20 weeks. Therefore, staff will continue renting a generator to provide backup power to the facility until the replacement arrives at approximately \$1,700 weekly. Given necessary rental expenses, staff contacted other generator vendors to determine availability and price to determine whether another vendor could provide a lower overall cost between rental and construction expenses. Given the quote received through the Sourcewell contract, and the shortest delivery time, Holt of California provided the lowest overall cost to the District. Therefore, staff recommends awarding the contract to Holt of California for purchasing a 500 KW generator.

FUNDING

The 2023-2027 Capital Improvement Plan (CIP) included the R1WTP Generator Replacement Project with \$770,000 planned for 2024. Unfortunately, the generator experienced a catastrophic failure before it could be replaced. The following is a breakdown of the existing and requested funding requested for this Project:

Table 2 - Funding Requirements

GM Approved Initial Funding – Contract award to Herwit Engineering for design and bid documents and capitalized labor	\$100,000
Additional Funding Request:	
Procure 500KW Generator – Holt of California (includes freight)	\$133,050
Generator tax (7.25%)	\$9,647
Capitalized labor	\$5,000
Total CIP Funding Request	\$147,697

BOARD OPTIONS

Option 1:

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: CIP summary

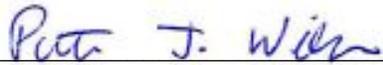
Attachment B: Holt of California Bid



Ryan Deakyne
Senior Buyer



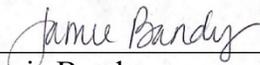
Bill Petterson
Drinking Water Treatment Supervisor



Patrick Wilson
Drinking Water Operations Manager



Dan Corcoran
Operations Director



Jamie Bandy
Finance Director



Brian Poulsen
General Counsel



Jim Abercrombie
General Manager

2023

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: PLANNED
Project Name: Res 1 Water Treatment Plant Generator Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

The generator at Reservoir 1 is beyond its useful life and needs to be replaced. It is difficult to get parts for the generator as the unit is obsolete and past its life expectancy, in fact the District can no longer purchase parts for the generator, which means that any repairs to the generator requires a custom repair. In addition, the generator did not pass the load bank test in 2022. In addition, the sound attenuation for the generator is in a mode of failure requiring a new enclosure around the generator. The District depends on this generator to keep the Reservoir 1 Water Treatment Plant operating during planned and unplanned power outages.

Basis for Priority:

Ability to maintain critical water supply during planned and unplanned power outages.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2023 - 2027 Planned Expenditures:	\$ 805,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 805,000
Project Balance	\$ -	Additional Funding Required	\$ 805,000

Description of Work	Estimated Annual Expenditures					Total
	2023	2024	2025	2026	2027	
Study/Planning	\$ 15,000					\$ 15,000
Design	\$ 20,000	\$ 20,000				\$ 40,000
Construction		\$ 750,000				\$ 750,000
TOTAL	\$ 35,000	\$ 770,000	\$ -	\$ -	\$ -	\$ 805,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		\$35,000
Total	100%		\$35,000

Funding Comments:

2023

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number:

PLANNED

Project Name:

Water Treatment Plant Asset Replacement Program

Project Category:

Reliability & Service Level Improvements

Priority:

2

PM:

Delongchamp

Board Approval:

11/14/22

Project Description:

This is an annual program to replace water treatment plant assets that have failed or reached end of useful life. Assets to be replaced or upgraded under this program include mechanical, electrical and instrumentation systems, treatment plant equipment and other plant assets.

Basis for Priority:

Replacement and improvements to inefficient processes, obsolete controls and substandard facilities will support regulatory compliance, improvement service reliability and reduce maintenance costs.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	\$ 3,000,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 3,000,000
Project Balance	\$ -	Additional Funding Required	\$ 3,000,000

Description of Work	Estimated Annual Expenditures					Total
	2023	2024	2025	2026	2027	
Facility Improvements	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 3,000,000
Design						\$ -
Construction						\$ -
TOTAL	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 3,000,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		\$600,000
Total	100%		\$600,000

Funding Comments:


HOLT
of California


Date: October 11, 2023

Project: El Dorado Irrigation District - Res 1 Water Treatment plant

Quote # ddh101223 – Sourcewell Pricing & Account # 203689

Holt of California, Inc is pleased to present the following quotation:

D500GC – C15 - 500kW Diesel Powered Generator Set ---- \$133,050.00

EMERGENCY/STANDBY POWER APPLICATION

EPA STATIONARY EMERGENCY

IBC SEISMIC CERT OF COMPLIANCE

C15 D500GC - UL2200 Listing - NFPA BUNDLE

EXTENDED SERVICE COVERAGE (ESC) GOLD 5-YEAR 2500HR STANDBY

60Hz 3PH 480v 500 KW W/FAN - PERMANENT MAGNET EXCITATION

M3154L41, 60HZ, SE, MV ALTERNATOR - SPACE HEATER

PERMANENT MAGNET GENERATOR (PMG)

ADEM A4 GOVERNOR

CONTROL PANEL

GCCP 1.2 CONTROL PANEL

GCCP1.2 Controller Features:

- 4-line back-lit LCD text display
- Multiple display languages
- Five-key menu navigation
- LCD alarm indication
- Customizable power-up text and images
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB & RS485 communication
- Front panel configuration with PIN protection
- 3-phase generator sensing and protection
- Generator current and power monitoring (kW, kvar, kVA, pf)
- kW and kvar overload and reverse power alarms
- Over current protection
- Unbalanced load protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN

Power Systems Division

3850 Channel Drive
West Sacramento, CA 95691-3443
(916) 373-4197
(888) 373-1359 Toll Free
(916) 373-4146 Fax

1521 West Charter Way
Stockton, CA 95206-1112
(209) 466-6000
(800) 347-4658 Toll Free
(209) 467-4658 Fax

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- 6 configurable DC outputs
- Support for 0 V to 10 V & 4 mA to 20 mA sensors
- 8 configurable digital inputs
- 4 configurable analogue/digital inputs
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Manual and automatic fuel pump control
- Engine pre-heat and post-heat functions
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel usage monitor and low fuel level alarms
- 3 configurable maintenance alarms

C15 INTEGRAL TANK (24HR) UL142 – 969 Total Gallons

5-GALLON SPILL CONTAINMENT - AUDIO & FUEL ALARM (90% LEVEL)

C15 Level 2 SOUND ATTENUATED (WHITE) – RATED AT 73 dBA @ 23 FEET
ENCLOSURE MUFFLER

JACKET WATER HTR (PUMP STYLE) WITH SHUTOFFS

REMOTE E-STOP BUTTON - REMOTE ANNUNCIATOR

GEN RUNNING & FAULT RELAY -PANEL MOUNTED AUDIBLE ALARM

INPUT EXPANSION MODULE - OUTPUT EXPANSION MODULE

100A LOAD CENTER - 20A GFCI (CONTROLS SIDE)

PRODUCT LINK 4G LTE TELEMATICS

INPUT & OUTPUT EXPANSION MODULES

GEN RUNNING & FAULT RELAY

Power Center Mounted Right Hand Side

CIRCUIT BREAKER AUXILIARY CONTACTS - NEUTRAL BAR

3-POLE Circuit Breakers, Rated 100%, 800A MAIN LSI Manual

GROUND FAULT RELAY INDICATION

1000CCA WET BAT 90A/HR INSTALLED - Battery Charger - 10 Amp NFPA

FACTORY 0.8PF PGS TEST REPORT @ 0.8 PF

Start up and test with a 2-hour resistive load bank – Training Included

(Sales tax not included in this quote)

Delivery

Pricing includes delivery on flat bed truck, off loading and setting Genset by customer.

Depending on time of delivery lead-time can change. **Currently approximate lead-time is 15 to 20 weeks** plus freight time from time of release to order the genset.

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Exception and Clarification:

This quote is based on verbal specifications with the following exceptions/clarifications. we take exception to any other specifications.

Note: The material listed in this quotation is our interpretation of the system requirements. We take a general exception to the project specs. We do not guarantee quantities, descriptions, etc. other than those shown. This quotation and Accompanying Bill of Material is to be considered as one entity. Any item not included in the Bill of Material is hereby excluded from our offer. Any deviations or additions will be subject to a revised quotation and may result in additional charges.

Note: Allow 3 to 4 weeks lead-time when scheduling start-up and testing.

All fuel including fuel required for initial start and test and refill after testing, will be supplied by others - **not** Holt of California.

No special lugs included in our quotes unless specifically identified on our proposal. You will receive the standard lugs for the provided breakers.

One (1) copy of factory standard, operations and maintenance manuals.

SUBMITTALS: Submittal drawings will be available approximately 2 to 4 weeks after receipt of purchase order.

Local AQMD Risk Management Policy may require a risk screening analysis, which is site specific. We can supply emission data and material for your use in this process. Based on the results of the risk screening analysis the equipment proposed may or may not be acceptable at your specific site. Any additional cost for emissions devices, parts, emission tests, or modifications to generator set will be the responsibility of contractor or/and owner.

CREDIT: Subject to approval.

CANCELLATION POLICY: Rates for change orders and / or cancellations will be consistent with those of Caterpillar, Inc. at time of order.

This quote is valid for 60 days, and the following are **not** included, installation (including genset concrete pad design/engineering), seismic calculations for mounting anchors or

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anchors, wiring, fuel, permitting, or permitting fees. FOB Factory, unloading and placement by others. Holt of California, Inc is a material supplier, and is exempt from any contractor requirements. The engine quoted is emissions rated, but the owner/contractor is advised to inquire with the local air quality authority regarding any specific requirements for aftermarket products not included with bill of materials.

WITH APPROVED CREDIT, TERMS OF PAYMENT ARE NET (30) DAYS FROM INVOICE DATE. CUSTOMER SHALL PAY A LATE CHARGE OF 1.5% PER MONTH OF ALL AMOUNTS PAST DUE. THE PLACE OF PAYMENT IS P.O. BOX 100001, SACRAMENTO, CALIFORNIA 95813.

Thank you for this opportunity to quote **CATERPILLAR** products. Please call if we may answer any questions, or be of further service.

Sincerely,

Dave Harris
Sales Engineer
Power Systems Division
916-373-4183 o
916-826-3148 c
916-373-4146 f
dharris@holtca.com

1. **PARTIES.** This Sale Order/Quotation ("Agreement") is made by and between Holt of California or Holt Rental Services dba The CAT Rental Store as seller ("Holt") and Customer described on the front of this Agreement as buyer and is effective when signed by Holt and Customer. This Agreement may be executed and delivered by facsimile.
2. **SALE OF GOODS.** Seller shall transfer and deliver to Customer, and Customer shall pay for and accept, the material and equipment described on the front of this Agreement ("Goods"). The time of delivery of the Goods shall be on or about the Estimated Delivery Date, provided that Holt may change the Estimated Delivery Date without Customer's consent, and Holt shall not be liable for delays in delivery of the Goods. The place of delivery shall be Holt's place of business. Risk of loss shall pass to Customer upon delivery of the Goods to Customer or to Customer's shipper.
3. **INSPECTION.** Customer shall have the right to inspect the Goods at the time and place of delivery before paying for or accepting them. Upon Customer's acceptance of the Goods, Customer shall be conclusively presumed to be satisfied with the condition and conformance of the Goods.
4. **WAIVER/AMENDMENTS.** The failure by Holt to enforce any provision hereof shall not constitute a waiver by Holt of such provisions, nor of any subsequent breach of the same, nor of any other provision hereof. This Agreement constitutes the entire agreement between the parties, and supersedes all prior and contemporaneous agreements or understandings of the parties. No amendment shall be binding unless in writing and signed by the parties. No party has been induced to enter into this Agreement by, nor is any party relying on, any representation or warranty outside those expressly set forth in this Agreement. Any rule of construction to the effect that ambiguities

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are to be resolved against the drafting party shall not apply in interpreting this Agreement. No agent, employee or representative of Holt has the authority to bind Holt to any representation or warranty regarding the Goods that is not contained in this Agreement.

5. **LIMITATION OF ACTIONS.** Any action for breach of this Agreement must be commenced within one year after the facts giving rise to the cause of action. Customer waives the right to a trial by jury.

6. **ASSIGNMENT.** This Agreement may be assigned by Holt to a third party without the prior consent of Customer.

7. **ATTORNEY'S FEES.** In any litigation, arbitration or other proceeding by which one party seeks to enforce its rights under this Agreement (whether in contract, tort, or both), the prevailing party shall be awarded reasonable attorney's fees, costs, and expert witness fees.

8. **VENUE.** Any dispute that arises between the parties shall be resolved in the Superior Court of California, County of Sacramento or County of San Joaquin, California.

9. **CALIFORNIA LAW.** This Agreement, and any dispute between the parties, shall be governed by California law. If any provision of this Agreement is held to be invalid in whole or in part, the validity of the remaining provisions shall not be affected.

10. **INDEMNITY.** Customer shall take all necessary precautions regarding the Goods and protect all persons and property from injury or damage. CUSTOMER SHALL INDEMNIFY AND HOLD HOLT FREE AND HARMLESS AGAINST ANY AND ALL CLAIMS, LOSS, DAMAGE, LIABILITY, EXPENSE (INCLUDING ATTORNEY'S FEES) AND PENALTY OF ANY KIND OR NATURE WHATSOEVER, INCLUDING WITHOUT LIMITATION INJURIES OR DEATH TO PERSONS AND DAMAGE TO PROPERTY ARISING OUT OF THE USE, MAINTENANCE, OPERATION, STORAGE, INSTRUCTION, DELAY (INCLUDING ANY DELAY IN OR FAILURE OF DELIVERY), SELECTION, PURCHASE, ACCEPTANCE OR REJECTION, OWNERSHIP, CONDITION, REPAIR OR POSSESSION OF THE GOODS OR ITS HANDLING OR TRANSPORTATION EXCEPT CLAIMS ARISING THROUGH THE SOLE NEGLIGENCE OR WILLFUL MISCONDUCT OF HOLT, WHETHER ATTRIBUTABLE TO A DEFECT IN THE GOODS, THE MATERIAL USED THEREIN OR THE DESIGN, MANUFACTURE OR TESTING OF THE GOODS, REGARDLESS OF WHETHER ANY SUCH DEFECT IS DISCOVERED, OR WHETHER THE GOODS ARE IN POSSESSION OF CUSTOMER OR THE LOCATION OF THE GOODS. CUSTOMER IS FULLY AWARE AND ACKNOWLEDGES THERE IS A RISK OF INJURY OR DAMAGE ARISING OUT OF THE USE OR OPERATION OF THE GOODS AND HEREBY ELECTS TO VOLUNTARILY ASSUME ALL OF THE ABOVE RISKS OF INJURY OR DAMAGE. CUSTOMER AGREES TO RELEASE AND DISCHARGE HOLT FROM ANY AND ALL RESPONSIBILITY OR LIABILITY FROM SUCH INJURY OR DAMAGE ARISING OUT OF THE USE OR OPERATION OF THE GOODS; AND CUSTOMER FURTHER AGREES TO WAIVE, RELEASE AND DISCHARGE ANY AND ALL CLAIMS FOR INJURY OR DAMAGE AGAINST HOLT WHICH CUSTOMER OTHERWISE MAY BE ENTITLED TO ASSERT.

11. **DISCLAIMER OF WARRANTIES/WAIVER OF DAMAGES.** EXCEPT AS OTHERWISE PROVIDED IN WRITING, NO WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE OR HAVE BEEN MADE OR AUTHORIZED BY HOLT WITH RESPECT TO THE GOODS AND ALL SUCH WARRANTIES ARE EXPRESSLY DISCLAIMED BY HOLT. CUSTOMER ACKNOWLEDGES THAT IF THERE IS A WARRANTY FOR THE GOODS, IT IS PROVIDED BY THE MANUFACTURER AND NOT BY HOLT. Customer acknowledges that it has selected the Goods on the basis of its own judgment and expressly disclaims any reliance upon any statements or representation made by Holt. Holt shall not be responsible to Customer for loss of use of Goods, loss of profits, or any other consequential damages. Holt shall not be liable for failure to deliver the Goods, or for any damages resulting from the selection, installation, operation or use of the Goods. Holt's liability regarding the Goods and/or this Agreement for any damages, whether arriving in contract, tort, or otherwise, shall be limited to the aggregate price of the Goods paid as of the date of the claim giving rise to the alleged damages.

12. **SECURITY INTEREST.** Customer hereby grants Holt a security interest in the Goods, including any attachments, accessions, and proceeds, to secure payment of the sales price and performance of Customer's obligations under this Agreement. Customer authorizes Holt to file such forms and documents as reasonably required by Holt to perfect its security interest, including but not limited to a UCC-1 financing statement with the California Secretary of State's Office. Holt shall have all of the rights of a secured party pursuant to the California Commercial Code until the Goods are paid in full.

Power Systems Division

3850 Channel Drive
West Sacramento, CA 95691-3443
(916) 373-4197
(888) 373-1359 Toll Free
(916) 373-4146 Fax

1521 West Charter Way
Stockton, CA 95206-1112
(209) 466-6000
(800) 347-4658 Toll Free
(209) 467-4658 Fax

www.holtca.com



13. **SUCCESSORS AND ASSIGNS.** This Agreement shall be binding on Customer and its successors and assigns without regard to changes in the form of Customer's business entity or name or membership.

14. **PURCHASE ORDER.** Holt shall not be bound by the terms of any purchase order issued by Customer unless signed by Holt. In the event of a conflict between any such purchase order and this Agreement, this Agreement shall control.

THE ATTACHED TERMS AND CONDITIONS ARE PART OF AND INCORPORATED IN THIS AGREEMENT. THIS AGREEMENT SHALL NOT BE CONSIDERED ENFORCEABLE UNTIL ACCEPTED BY HOLT AND EXECUTED BY ITS OFFICER. ANY INDIVIDUAL SIGNING THIS AGREEMENT REPRESENTS AND WARRANTS THAT HE/SHE IS AT LEAST 18 YEARS OLD AND HAS THE AUTHORITY TO BIND CUSTOMER TO THE TERMS OF THIS AGREEMENT.

DATED: 10/11/2023

DATED:

HOLT OF CALIFORNIA

CUSTOMER

X 

X _____

By: David D. Harris

By: _____

Title: Power Systems Sales Engineer

Title: _____

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EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider executing the Commitment to Excellence Agreement between the El Dorado Irrigation District and the Association of California Water Agencies Joint Powers Insurance Authority, making the District eligible for annual grant funding.

PREVIOUS BOARD ACTION

None

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 0010 District Mission Statement

AR 4015 Injury and Illness Prevention Program

SUMMARY OF ISSUE

District staff continues to seek grant-funding opportunities where available and is currently seeking grant funding through the Association of California Water Agencies Joint Powers Insurance Authority (ACWA JPIA) Risk Control Grant Program (Grant Program) (Attachment A). As part of the application process and among other eligibility requirements, member agencies seeking grant funds must execute the ACWA JPIA Commitment to Excellence Agreement (Attachment B), which requires that all EID Board members acknowledge and sign.

BACKGROUND/DISCUSSION

As a member of ACWA JPIA, the District can apply for annual grants of up to \$10,000 to fund risk management and safety program projects and/or equipment. ACWA JPIA grants are intended to fund specific one-time, non-routine risk management or loss control programs or activities that address those risks. The Grant Program aims to promote implementing best practices to prevent or mitigate losses in the ACWA JPIA's Workers' Compensation, General Liability, and Property Programs and, by extension, enhance workplace safety for District employees. The Grant Program incentivizes members to review and/or renew best practices related to their operations.

The District and ACWA JPIA share a mutual interest in ensuring the most consistent, cost-effective, and broadest possible affordable insurance coverage and related services. In partnership with all the members, and in the interest of reducing the District's insurance costs, the District commits to a program of excellence that, through the implementation of best practices, reduces the potential and frequency of:

- Vehicle Losses
- Infrastructure Related Losses
- Construction Related Losses
- Employment Practices Claims
- Ergonomic (Musculoskeletal) and Fall Injuries
- Wildfire Prevention

The District's Safety and Security Officer and an ACWA JPIA risk advisor conduct loss assessments annually. They develop a service plan to support the District in occupational health and safety areas as part of that assessment. The District follows the service plan to enhance workplace safety and performs tasks such as safety training and facility inspections.

This mutual agreement will maintain our working relationship with ACWA JPIA's risk team and allow us to continue identifying opportunities for improvement. By executing the Commitment to Excellence Agreement, the District and ACWA JPIA can continue to fully support the collective goal of implementing effective preventative measures that provide a safe working environment for all employees.

BOARD OPTIONS

Option 1: Execute the Commitment to Excellence Agreement between the El Dorado Irrigation District and the Association of California Water Agencies Joint Powers Insurance Authority, making the District eligible for annual grant funding.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: ACWA JPIA Risk Control Grant Program Description

Attachment B: Commitment to Excellence Agreement



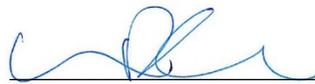
Daniel Newsom
Safety and Security Officer



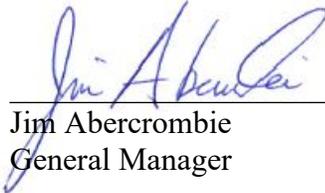
Jose Perez
Human Resources Director



Dan Corcoran
Operations Director



Brian Poulsen
General Counsel



Jim Abercrombie
General Manager

JPIA Risk Control Grant Program

Program Description



PROGRAM DEADLINES

- ***Applications may be submitted between October 2, 2023 and no later than 4:30 P.M. on December 1, 2023.***
- ***Eligible submissions must be completed between October 2, 2023 and September 30, 2024.***
- **JPIA approval notification to members will occur by March 1, 2024.**

PURPOSE

The purpose of the JPIA's Risk Control Grant Program (Grant Program) is to promote the implementation of best practices that will prevent or mitigate losses in the JPIA's Workers' Compensation, General Liability, and Property Programs. The historical loss areas for these programs serve as the foundation for the best practices in the JPIA's Commitment to Excellence Program. The Grant Program will incentivize members to renew their Commitment to Excellence and review best practices applicable to their operations.

JPIA members are eligible for a grant of up to \$10,000 to fund their risk management and safety program projects or equipment. This is accomplished by funding specific one-time, non-routine risk management or loss control programs or activities that are intended to address those risks. Members are encouraged to work with their JPIA Risk Control Advisor prior to submission.

ELIGIBILITY

- All JPIA members participating in at least two JPIA pooled programs: (Workers' Compensation, Liability, and/or Property Programs).
- Grant funds must be applied to best practices relevant to the pooled programs in which the member participates.
 - ***This approach is consistent with the JPIA's H.R. LaBounty Safety Awards Program, ongoing risk assessments at member facilities, consultative services to support a member's risk and safety programs, and onsite training delivery.***

- Specialized training in occupational safety and health must include a Train-the-Trainer aspect that allows a member's subject matter expert(s) to design, facilitate, and teach the course within their Agency.
- The member has signed the Commitment to Excellence (C2E) Agreement.
 - ***The member must have the C2E Agreement in place before submitting the Grant request, and it should accompany the Grant documents.***
- The member must be current in their payment of premiums.
- A member may submit one Risk Control Grant Application per grant program cycle.
 - ***Previous grant recipients must wait one full grant program cycle, from their awarded grant period, before re-applying.***

EXCLUSIONS (include but are not limited to):

- Normal or routine maintenance projects or deferred maintenance, such as repair or serving equipment.
- Items normally covered in an operations budget.
 - ***A capital improvement is defined as a non-recurring expenditure or any expenditure for physical improvements, including costs for the acquisition of existing buildings, land, or interests in land; construction of new buildings or other structures, including additions and major alterations; construction of streets and highways or utility lines; acquisition of fixed equipment; landscaping; and similar expenditures. It may mean any change, alteration, rearrangement, or addition to existing facilities. It is also new construction, acquisition, or improvements to sites, buildings, or service systems.***
- Cost of labor (hiring personnel, wages including overtime).
 - ***Exception: Includes program, product, or service provided/performed by a certified, insured, licensed, and/or qualified individual or entity (i.e., Smith System Trainer, professionally authorized train-the-trainer courses, or EPL specialized trainer).***
- Expenditures for fines, penalties, and/or citations.

AWARD CRITERIA

A proposed Grant Program application will be reviewed and scored according to the stated criteria:

- Defined scope, process, or performance objective(s) that have a high probability of increasing employee safety, enhancing risk control, or reducing loss exposure(s).
- The grant request must show a results-oriented impact that is measurable and identifiable.
 - ***Data demonstrating the reduction of risk will enhance the possibility of the grant.***
- A defined solution to increasing employee safety, enhancing risk control, or reducing loss exposure(s).
 - ***Grant requests utilizing the hierarchy of hazard control system (eliminate or minimize a hazard) are strongly encouraged.***

- Be an effective and sustainable risk management or loss control process or procedure.
 - ***Grant requests that may provide a unique or innovative solution and assist our members with risk management and loss control techniques are encouraged.***

APPLICATION AND SELECTION PROCESS

The ACWA JPIA Risk Control Grant Program application must be prepared and responded to **fully**. All responses to questions are required; otherwise, the application will be deemed incomplete.

A Grant Program application must be submitted with adequate documentation to support the stated use of funds with a General Manager's signature.

Priority will be given to grant applications that:

- Applying Grant Program funds to a JPIA Commitment to Excellence Program category consistent with their pooled program participation. Applying the grants to the Commitment to Excellence categories ensures that funds are used on best practices tied to JPIA's primary loss drivers.

Grant Program applications will be distributed on a first approved basis. Ten grants will be awarded or until all eligible funds have been expended. Small, medium, and large districts will receive two awards respectively; the remaining four awards will be merit-based.

Applications will be approved by **March 1, 2024**. Members will be notified of their grant application status.

REIMBURSEMENT OF EXPENDITURES

Grant Program funds will be paid as reimbursements or initial investments for costs incurred within the scope of the project. To receive grant funding, the grant application must be submitted for projects ***initiated and completed within the fiscal year (10/2/23 – 9/30/24)***. Paid invoices and supporting documentation are required.

Upon completion of the project, members shall provide a report to the Risk Management Committee and Executive Committee summarizing the project goals and results achieved.

USE OF FUNDS CRITERIA

Grant Program funds shall be used solely for the implementation of the project as defined in the Grant Application and consistent with the Risk Control Grant Program. Funds may not be expended or otherwise encumbered or used for any other purpose without ACWA JPIA's prior written approval.

Members are required to provide ACWA JPIA with immediate written notification of their inability to expend funds under the grant, in whole or in part, for the purposes as described in the Grant Application, or if any expenditure is made for any purpose other than those for which the grant was requested and approved. Additionally, if the deliverables are not completed within the designated milestones as approved, or if the project is not showing progress to achieve program goals within the grant funding, ACWA JPIA reserves the right to immediately discontinue, modify, or withhold any payments under this conditional grant award.

Members agree to give ACWA JPIA full access to all project-related information, data, and analytics the member has access to under this grant.

ACCOUNTABILITY PROCESS

All grant fund awards are at the discretion of the JPIA, with the final decision by the JPIA CEO. The JPIA’s Risk Control Manager will prepare an annual report on the grant fund utilization for presentation at the annual Risk Management Committee meeting.

GRANT PROGRAM – COMMITMENT TO EXCELLENCE CATEGORIES

The JPIA’s Commitment to Excellence (C2E) Program Best Practices are detailed in the *Loss Reduction Focus Menus* and *Explanations* available on the JPIA’s website. A partial list of grant ideas is outlined below.

C2E Loss Reduction	Coverage Program	Grant Ideas
Infrastructure-Wildfire	Liability, Property	<ul style="list-style-type: none"> • Emergency plan for wildfire • Emergency equipment/supplies • Communication equipment
Vehicle Operations	WC, Liability, Property	<ul style="list-style-type: none"> • Vehicle equipment such as emergency strobes, high visibility stripes • Vehicle telemetries-GPS tracking • Smith System Train-the-Trainer or similar systems
Water Line Failure	Liability, Property	<ul style="list-style-type: none"> • Valve exercise/flushing program • Emergency response trailer • Underground line locating equipment and training. • Fire hydrant check valve/flapper valve • Condition Assessment Study/Water Leak Study • Cathodic protection
Ergonomics Program	Workers' Compensation	<ul style="list-style-type: none"> • Ergonomic evaluations • Ergonomic Coordinator training • Ergonomic equipment purchase • Mobile workstation for trucks • Truck bed steps
Employment Practices	Liability	<ul style="list-style-type: none"> • Organizational consultant to offer coaching training/techniques for managers to better motivate or engage staff. <ul style="list-style-type: none"> • Diversity, Equity, and Inclusion • Change Management • Communication/Conflict Resolution • HR software to track performance and document employee actions. • Conduct engagement survey with resultant follow-up activities.

GRANT SUBMISSION CHECKLIST

The member should thoroughly read the Program Description, review all program requirements, and complete the application fully prior to submission.

ELIGIBILITY VERIFICATION CHECKLIST

<input type="checkbox"/>	Your agency worked with a JPIA Risk Control Advisor prior to submission. <i>*Pg. 1</i>
<input type="checkbox"/>	Your agency participates in at least two JPIA pooled programs: (Workers' Compensation, Liability, and/or Property Programs). <i>*Pg. 1</i>
<input type="checkbox"/>	The submission applies to best practices relevant to the pooled programs in which your agency participates. <i>*Pg. 1</i>
<input type="checkbox"/>	The application is submitted between October 2, 2023, and no later than 4:30 P.M. on December 1, 2023. <i>*Pg. 1</i>
<input type="checkbox"/>	The submitted project is planned to be completed between OCTOBER 2, 2023 – SEPTEMBER 30, 2024. <i>*Pg. 1, Pg. 4</i>
<input type="checkbox"/>	The submission is for a specific one-time, non-routine activity related to risk management or loss control programs. <i>*Pg. 1</i>
<input type="checkbox"/>	Adequate documentation to support the stated use of funds is provided with a General Manager's signature on the application. <i>*Pg. 3</i>
<input type="checkbox"/>	The submission is focused on risk management and safety program projects or equipment, ongoing risk assessments for your agency, consultative services to support your agency's risk and safety programs, or onsite training delivery. <i>*Pg. 1 and Pg. 2</i>
<input type="checkbox"/>	<input type="checkbox"/> **IF THE SUBMISSION IS FOR ON-SITE TRAINING DELIVERY: Specialized training in occupational safety and health must include a Train-the-Trainer aspect that allows a member's subject matter expert(s) to design, facilitate, and teach the course within their Agency. <i>*Pg. 2</i>
<input type="checkbox"/>	The member has signed the Commitment to Excellence (C2E) Agreement. <i>*Pg. 2</i>
<input type="checkbox"/>	The member must be current in their payment of premiums. <i>*Pg. 2</i>
<input type="checkbox"/>	If you were a previous grant recipient, you have waited for one full grant program cycle, from your previous awarded grant period, before re-applying. <i>*Pg. 2</i>
<input type="checkbox"/>	Grant Program funds are used solely for the implementation of the project as defined in the Grant Application and consistent with the Risk Control Grant Program. <i>*Pg. 3</i>

EXCLUSION VERIFICATION – The Submission Is NOT For The Following:

<input type="checkbox"/>	Normal or routine maintenance projects or deferred maintenance, such as repair or serving equipment. <i>*Pg. 2</i>
<input type="checkbox"/>	Items normally covered in an operations budget, inspection services, and normal reoccurring budget items. <i>*Pg. 2</i>
<input type="checkbox"/>	Cost of labor (hiring personnel, wages including overtime). <i>*Some exceptions apply. See Pg. 2</i>
<input type="checkbox"/>	Items intended to meet a minimum compliance obligation. <i>*Pg. 2</i>
<input type="checkbox"/>	Non-safety work apparel. <i>*Pg. 2</i>
<input type="checkbox"/>	Expenditures for fines, penalties, and/or citations. <i>*Pg. 2</i>



Commitment to Excellence

El Dorado Irrigation District

and the ACWA JPIA in mutual support for ensuring the most consistent, cost effective, and broadest possible affordable insurance coverage and related services, and in partnership with all JPIA members, and in the interest of reducing ***El Dorado Irrigation District's*** insurance costs, commit to a program of excellence that through the implementation of "best practices" reduces the potential and frequency of:

- **Vehicle Losses**
- **Infrastructure Related Losses**
- **Construction Related Losses**
- **Employment Practices Claims**
- **Ergonomic (Musculoskeletal) and Fall Injuries**
- **Wildfire Prevention**

and fully support the goal of implementing effective preventative measures that work to achieve these loss reductions.

_____(CEO, ACWA JPIA)
Adrienne Beatty

_____(General Manager)
Signature

_____(Board Member)
Signature

EL DORADO IRRIGATION DISTRICT

SUBJECT: Annual Legislative Report for 2023 by Reeb Government Relations, LLC.

PREVIOUS BOARD ACTION

June 12, 2023 – Board approved recommendations of Reeb Government Relations, LLC, as the District's official positions on proposed state legislation as presented, modifying the official position on AB 1484 to oppose unless amended.

The Board has proactively taken positions on State legislation that affect the District's interests.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 12020 Duties and Powers

SUMMARY OF ISSUE

With the close of the State legislative session, the District's State legislative advocate, Reeb Government Relations, has prepared a 2023 Annual Report for presentation to the Board. Mr. Reeb will be present at the meeting to discuss the report and recent legislative and administrative developments of interest to the District.

BACKGROUND/DISCUSSION

Bob Reeb has served as the District's State legislative advocate for more than 19 years and is one of the most knowledgeable and influential legislative advocates on water policy in the State. As both the former General Manager of the El Dorado County Water Agency and Legislative Director of the Association of California Water Agencies (ACWA), Mr. Reeb has an exceptional understanding both of the District's needs and interests and also of the means of accomplishing our goals—or at least protecting our interests against adverse changes—through the legislative and administrative processes.

Mr. Reeb and District staff actively monitored or influenced the development of dozens of legislative bills in 2023. Mr. Reeb worked with various coalitions to both affirmatively advance the District's interests through legislation and also to defend against proposed legislation that raised concerns for the District. The primary focus in this session was on a trio of water rights legislation.

The attached 2023 Annual Report from Reeb Government Relations covers:

- The State's 2023-2024 Budget
- Executive and legislative action regarding droughts and floods
- Legislation the District actively participated in:
 - Atmospheric rivers: research: reservoir operations (AB 30)
 - Statewide water storage: expansion (AB 62)
 - Water: school sites: lead testing (AB 249)
 - Fuel reduction work (AB 338)
 - California Environmental Quality Act: grounds for noncompliance (AB 340)
 - State Water Resources Control Board: water rights and usage: interim relief: procedures (AB 460)

- Surplus land (AB 480)
- California Safe Drinking Water Act: wildfire aftermath: benzene testing (AB 541)
- Water: general state policy (AB 676)
- State Water Pollution Cleanup and Abatement Account: annual proceeds transfers (AB 753)
- Water management planning: water shortages (AB 754)
- Water: public entity: water usage demand analysis (AB 755)
- California Water Affordability and Infrastructure Transparency Act of 2023 (AB 838)
- State Water Resources Control Board: water diversion curtailment (AB 1337)
- Temporary public employees (AB 1484)
- California Environmental Quality Act: exemption: wildfire fuels reduction projects (AB 1554)
- Safe Drinking Water, Wildfire Prevention, Drought Preparation, Flood Protection, Extreme Heat Mitigation, Clean Energy, and Workforce Development Bond Act of 2024 (AB 1567)
- Potable water: nonfunctional turf (AB 1572)
- Medium- and heavy-duty zero-emission vehicles: public agency utilities (AB 1594)
- Water supply and flood risk reduction projects: expedited permitting (SB 23)
- Sierra Nevada Conservancy: Sierra Nevada Region: sub-regions: climate resilience and equity (SB 39)
- The California Water Plan: long-term supply targets (SB 366)
- State Water Resources Control Board: investigation of water rights (SB 389)
- Water: Urban Water Community Drought Relief program: Small Community Drought Relief program: high fire hazard and very high fire hazard severity zones (SB 470)
- Public contracts: progressive design-build: local agencies (SB 706)
- Climate Resiliency and Flood Protection Bond Act of 2024 (SB 738)
- Drought, Flood, and Water Resilience; Wildfire and Forest Resilience; Coastal Resilience, Extreme Heat Mitigation, Biodiversity and Nature-Based Climate Solutions; Climate Smart Agriculture, Park Creation and Outdoor Access, and Clean Energy Bond Act of 2024 (SB 867)
- Voting thresholds (ACA 13)

BOARD OPTIONS

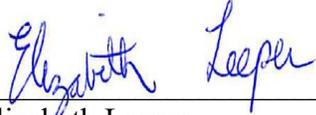
None – Information only.

RECOMMENDATION

None – Information only.

ATTACHMENTS

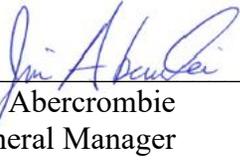
Attachment A: 2023 Annual Report



Elizabeth Leeper
Senior Deputy General Counsel



Brian Poulsen
General Counsel



Jim Abercrombie
General Manager



MEMORANDUM

October 10, 2023

TO: Elizabeth Leeper, Senior Deputy General Counsel
El Dorado Irrigation District

FROM: Bob Reeb and Raquel Ayala Vargas, Esq.
Reeb Government Relations, LLC

RE: 2023 Annual Report

This is the 19th year that Reeb Government Relations has had the honor and privilege to work with El Dorado Irrigation District (EID or District) to advance its interests on behalf of District customers and taxpayers through state-level legislative and regulatory advocacy in Sacramento.

Our firm provides a full suite of lobbying services under your immediate direction and enjoys working with District staff and the board of directors. We submit monthly written reports and weekly legislative status reports to the District. We value the expertise, advice and comments shared by senior staff in response to our inquiries related to legislation and proposed regulatory proceedings.

This was the first year of the 2023-24 Regular Session of the Legislature and we are pleased to report that the District and our firm have enjoyed getting to know Senator Marie Alvarado-Gil and Assembly Member Joe Patterson and their respective staff in this, their first year of service in the California Legislature. Both legislators were very responsive to District positions on legislation and their staff was always accessible. Our firm and the District continue to enjoy a similar experience with Assembly Member Meghan Dahle, who has represented portions of El Dorado County for four years. Assembly Member Dahle, for example, was personally engaged and met with representatives of the water rights legislation opposition coalition on several occasions.

A Debt Problem Is, At Its Core, a Budgeting Problem¹

Governor Gavin Newsom introduced his \$296.9 billion state budget proposal on January 10, 2023, with a projected General Fund deficit of \$22.5 billion. To deal with this deficit,

the proposed budget initially reduced, delayed, or eliminated several previous spending commitments, including significant investments in mitigating or preparing for the effects of climate change.

The 2021 and 2022 Budget Acts allocated about \$54 billion over five years to advance the state's climate agenda. The Governor's proposed budget slashed this by \$6 billion. About half of the budget cuts, \$3.3 billion, to the state's climate change programs would come from the state's clean transportation initiatives, including programs designed to ramp up zero emission vehicle infrastructure. Still, the governor's initial proposal maintained \$8.6 billion, over multiple years, of previously committed funding to mitigate the impacts of drought and continue to cultivate water resilience throughout the state.

As the year progressed, however, the state's projected budget deficit increased to \$31.5 billion, revealing a more dire fiscal picture for the state. According to the Legislative Analyst's Office, the increasing budget problems were due to a combination of factors, such as decreased revenues, increased baseline spending and new discretionary spending. The Governor's May Revision proposed to address the higher deficit through a combination of several fiscal maneuvers, some initially introduced in the January state budget proposal, including:

- Delaying an additional \$695 million in spending (for a total of \$8.1 billion) across the 2021-22 through 2023-24 fiscal years.
- Reducing an additional \$1.1 billion in spending (for a total of \$6.7 billion).
- Shifting an additional \$3.3 billion (for a total of \$7.5 billion) in expenditures from the General Fund to special funds.
- Increasing \$3.7 billion (for a total of \$4.9 billion total) in revenue and borrowing from special funds.
- Withdrawing for expenditure \$450 million from the state's Safety Net Reserve.

The Legislature passed a budget bill on June 15, 2023 to meet the constitutional deadline to pass a balanced state budget. Further negotiations ensued between legislative leaders and the governor to reach agreement on a state budget before the start of the fiscal year on July 1, 2023.

On June 27, 2023, the governor signed the FY 2023-24 state budget, along with 20 budget trailer bills, approving a \$310 billion spending plan. According to the governor and legislative leaders, the budget addressed a \$31.7 billion deficit while maintaining budget reserves through the following actions: \$9.3 billion in spending shifts from the General Fund to other funds; \$8.1 billion in General Fund spending reductions or the elimination of previously approved spending; \$7.9 billion in spending delays; \$6.1 billion in revenue and internal borrowing from special fund balances not projected to be needed for programmatic purposes in FY 2023-24; and \$340 million in reductions that will be restored in the January 2024 governor's state budget proposal should there be sufficient resources.

In 2022, California enacted landmark legislation to advance the Newsom Administration's climate goals of cutting pollution, advancing carbon neutrality, developing a carbon removal target date for natural and working lands, and accelerating the state's transition to clean energy.

The Newsom Administration has begun those initiatives, and the enacted State Budget includes resources to continue their implementation. According to the Department of Finance, the initiatives and funding include:

- *Nature-Based Solutions—Chapter 341, Statutes of 2022 (AB 1757) outlined a comprehensive portfolio of initiatives that include setting targets, quantifying and reporting progress, updating the state strategy, and engaging with experts, to develop an ambitious range of targets for natural and working lands. The Budget includes \$7.6 million General Fund and Cost of Implementation Account in 2023-24 and \$5 million ongoing to support implementation.*
- *Clean Electric Grid—Chapter 361, Statutes of 2022 (SB 1020) advances new interim clean energy targets for California while increasing community engagement. The bill requires eligible renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by December 31, 2035; 95 percent of all retail sales of electricity to California end-use customers by December 31, 2040; and 100 percent of electricity procured to serve all state agencies by December 31, 2035. SB 1020 accelerates Chapter 312, Statutes of 2018 (SB 100) requirements for state agencies by ten years. The Budget includes \$4 million from various funds (General Fund, Cost of Implementation Account, Greenhouse Gas Reduction Fund, and Public Utilities Commission Utilities Reimbursement Account) in 2023-24, and additional ongoing funds, across multiple agencies to support implementation.*
- *Carbon Sequestration—Chapter 359, Statutes of 2022 (SB 905) establishes a framework for capture, utilization, and storage of compressed carbon dioxide and created the Carbon Capture, Removal, Utilization, and Storage Program. The Budget includes \$7.8 million Cost of Implementation Account for the State Air Resources Board (\$3.6 million), Department of Conservation (\$3.7 million), and State Water Resources Control Board (\$280,000) in 2023-24 and ongoing to support implementation.*

The 2021 and 2022 Budget Acts committed \$2.8 billion over four years to continue strengthening forest and wildfire resilience statewide. The enacted State Budget maintains \$2.7 billion (98 percent) of these investments over four years to advance critical investments in restoring forest and wildland health to continue to reduce the risk of catastrophic wildfires in the face of extreme climate conditions. The Budget includes \$61 million in General Fund reductions across various programs, which include, but are not limited to, Climate Catalyst Fund, Stewardship of State-Owned Lands, and

Workforce Training. These reductions are offset in part by a \$14 million shift to Proposition 98 (public education).

The 2021 and 2022 Budget Acts committed \$8.7 billion over multiple years to support drought resilience and response programs to help communities and fish and wildlife avoid immediate impacts from extreme drought, while advancing projects and programs that will improve the state’s resilience to future droughts and floods. The enacted State Budget maintains \$8.1 billion (93 percent) of these investments over multiple years in programs and projects to bolster the capacity of communities and ecosystems to endure droughts and floods. The Budget reflects \$632 million in General Fund reductions and \$455 million in delays across various programs which include, but are not limited to, water recycling, Salton Sea restoration, safe drinking water (PFAS treatment), and water conservation programs.

The State Budget deficit and uncertain revenue future prompted the Department of Finance, in the Governor’s May Revision to write the following:

“Given the ambition and urgency of California’s climate agenda, the Administration remains committed to supporting additional resources to continue to advance the climate and opportunity agenda. As indicated at Governor’s Budget, the Administration is committed to engaging the Legislature in pursuing a climate bond over the coming months. As a result of lower revenue projections and a resulting increase in the budget problem, the May Revision includes an additional \$1.1 billion in General Fund shifts across climate resilience programs. These programs remain a high priority for the Administration and will be included as part of the future climate bond proposal. Specific shifts to the bond include:

- *Water Recycling—\$270 million*
- *Salton Sea Restoration—\$169 million*
- *Community Resilience Centers—\$160 million*
- *Transformative Climate Communities—\$100 million*
- *Regional Resilience Program—\$100 million*
- *Urban Greening—\$100 million*
- *Statewide Parks Program—\$86.6 million*
- *Sustainable Groundwater Management Act Implementation—\$60 million*
- *Dam Safety and Flood Management—\$50 million*
- *Multi-Benefit Land Repurposing—\$20 million*

Legislative climate resilience bond proposals include SB 867 (Allen), AB 1567 (Garcia), and SB 638 (Eggman and Niello). The Allen and Garcia bond proposals total about \$16 billion each, while the Eggman and Niello bond sits at \$6 billion (some flood risk reduction funding is included in SB 867 and AB 1567). We believe the three proposals will be combined into one state general obligation bond proposal for placement on the November 2024 General Election ballot, but the total amount will likely be between \$8 and \$10 billion, according to Newsom Administration sources. Recent polling of state voters, however, indicate they are hesitant to support significant issuance of new debt.

When it Rains, it Pours...²

After three consecutive years of persistent and worsening drought conditions, the state was inundated with multiple atmospheric rivers, causing widespread flooding in several counties earlier this year. These storms set rainfall records, with some locations receiving their annual average rainfall totals in less than a month. Breached levees, overtopped riverbanks, flash floods, mudslides, debris flow, and fallen trees resulted in loss of life and severe property and infrastructure damage. Thousands of persons were forced to evacuate with many losing their homes. By the time the storms and floods receded, economic losses were estimated to have reached between \$5–7 billion. The silver lining was the creation of historic levels of snowpack, significantly improving the state’s water conditions. The FY2023-24 State Budget reflected these changing conditions, with many of the climate funding reductions being shifted to support targeted statewide flood funding.

He Who Sews Hurry Reaps Indigestion³

This year’s budget negotiations between the Legislature and the governor were more complicated compared to the last few years due, in part, to the governor’s proposed trailer bills to streamline infrastructure projects that would help meet the state’s climate goals, such as drought and flood resilience. The Governor originally proposed a package of 11 measures in May to accompany the main budget bill.

Under Newsom’s proposal, certain types of water, transportation, clean energy, and semi-conductor or microelectronic projects would be eligible for expedited judicial review under CEQA. The provisions would require that judicial challenges and appeals under CEQA be completed, to the extent feasible, within 270 days. For water infrastructure, this expedited review process would specifically apply to the Delta Conveyance Project, water storage projects under Proposition 1 (including the Sites Reservoir Project), water recycling projects, desalination projects, and canal or other conveyance maintenance or repair projects. Projects would need to apply to be certified as an eligible water-related project and lead agencies would be required to prepare the administrative record concurrently with the administrative approval process.

The governor’s trailer bill proposals would directly benefit water infrastructure projects by streamlining administrative and project delivery processes. Specifically, the proposals would also streamline the process and types of documents that are subject to CEQA administrative record; grant the Department of Water Resources (DWR) the authority to utilize the Progressive Design-Build project delivery process to accelerate construction and reduce costs; repeal the classification of “fully protected” under CESA and provide additional authority for the California Department of Fish and Wildlife to issue incidental take permits; and streamline certain procedures of the Delta Stewardship Council to allow the Council’s consistency review process to be more efficient. The trailer bills would also seek to establish a Green Bank Financing Program

within the Climate Catalyst Fund so that the state can leverage existing federal dollars for climate projects.

The Governor's proposals were reduced to five infrastructure bills following negotiations with the Legislature to allow the state to "build more, faster to mitigate extreme weather and other environmental impacts."

Senate Bill 149 by Senators Ana Caballero (D-Salinas) and Josh Becker (D-San Mateo), and Assembly Speaker Robert Rivas (D-Salinas) included the governor's proposal to expedite CEQA administrative and judicial review procedures. Specifically, the legislation will revise procedures regarding CEQA administrative record to make preparation and certification of the record more efficient, without compromising the content of the record; establish new expedited judicial review procedures (270-days, if feasible) for four categories of public and private "infrastructure projects" provided the eligible projects are certified by the governor, approved by the lead agency by January 1 2033, and meet specified labor requirements; and extend these expedited administrative and judicial procedures until January 1, 2032.

Water-related projects that can qualify for this new streamlined CEQA review processes include a project that is approved to implement a groundwater sustainability plan that DWR has determined to be in compliance with specified provisions of SGMA; water storage projects under Proposition 1; water recycling projects; desalination projects; and projects exclusively for canal or other conveyance maintenance and repair. The definition of "water-related projects" explicitly excluded the design or construction of through-Delta conveyance facilities of the Sacramento-San Joaquin Delta.

Governor Newsom signed the final infrastructure bill package on July 10, 2023.

Changes in Attitude, Changes in Latitude⁴

Assemblyman Robert Rivas (D-Hollister) was sworn in on June 30, 2023 as the 71st Speaker of the California State Assembly. Speaker Rivas represents all of San Benito County, as well as portions of Monterey, Santa Clara, and Santa Cruz Counties. He succeeds Assembly Member Anthony Rendon from Los Angeles, who served as Speaker from 2016 to 2023.

Rivas announced his leadership team at a news conference on July 3. Assembly Member Cecilia Aguiar-Curry (D-Winters) has been tapped to assume the role of Speaker Pro Tem and Assembly Member Isaac Bryan, D-Los Angeles, will be the new Majority Leader for the 62-member Democratic caucus. Aguiar-Curry and Bryan were allies of Rivas during his long, bitter fight for the Speaker role. At the news conference, Bryan said that the team would work on "building a different kind of culture in the body." Rivas emphasized efficiency and unifying the caucus. Rivas told the news at the conference that other committee leadership shake-ups were coming, though mostly in the next session to "minimize disruptions in the legislative year." Rivas represents a largely rural and agricultural District on California's Central Coast. Since the early

1960s, the majority of Speakers have been from the urban areas of Los Angeles County or the San Francisco Bay Area. Many view Rivas' politics and policies to be the same as Rendon's, however Rivas is expected to bring more of a focus on farmworkers and agricultural communities.

Speaker Rivas named Keith Cialino to serve as an environmental policy consultant in his office. The move comes after longtime environmental policy advisers Alf Brandt and Marie Liu departed the speaker's office following Rivas' ascension into leadership. Prior to this position, Cialino served as a consultant for the Assembly Water, Parks and Wildlife Committee over the last five years. According to his LinkedIn profile, his areas of expertise include crafting science-informed public policy, public outreach, sustainability, water quality, and environmental management.

On the Senate side, on August 28, Senate President pro Tempore Toni G. Atkins (D-San Diego) announced that the Senate Democratic Caucus had unanimously named Senator Mike McGuire (D-Healdsburg) as the Pro Tem Designee, with a transition to be announced next year. Senator McGuire, a former county supervisor who was elected to the Senate in 2014, has served as Majority Leader since 2022, and has been integral to several legislative victories, including the 2022 climate package and the infrastructure streamlining package negotiated alongside this year's state budget. Senator Atkins reaches the end of her term limit in 2024.

It is difficult to make our material condition better by the best law...⁵

Following the review and approval of legislative positions by District staff and the Board of Directors, our firm actively monitored and engaged in direct lobbying on over 50 bills. Below, we highlight legislation on which the District was active this year.

Water Lead Testing

Assembly Bill 249, by Assemblymember Christopher Holden (D-Pasadena), as introduced, would require, on or before January 1, 2027, a community water system that serves a school site to test for lead in each of the school site's potable water system outlets and to report the results to the State Water Resources Control Board (state board) and applicable school or Local Educational Agency (LEA). Specifically, the bill would require additional testing and aligning action levels at the 5 parts per billion (ppb) action level that the State Water Board established by regulation for child daycare centers. According to the author, AB 249 is the "responsible step of aligning childcare and school lead testing standards."

EID opposed AB 249, primarily because the bill's provisions could potentially lead to conflicting state and federal requirements, all while remaining unclear as to how public water systems would be expected to fulfill both sets of requirements. By establishing a 5 ppb action level and requiring testing at every potable water outlet at eligible school sites, AB 249 proposed stricter standards for lead in drinking water than those currently required by state or federal law.

The United States Environmental Protection Agency (USEPA) recently updated the Lead and Copper Rule Revision (LCRR) and is currently developing federal Lead and Copper Rule Improvements (LCRI) to strengthen the regulatory framework to address lead in drinking water and more equitably protect public health. The current compliance date for the LCRR and expected issue date for the LCRI is October 16, 2024. Under this current established timeline, community water systems will not be required to begin testing in schools until October 16, 2024, and from that date, will have five years to complete testing in all of the schools in their distribution areas. In comparison, the operative date for AB 249 would be January 1, 2024 with a completion date of January 1, 2027. The school testing provisions in the federal LCRR/LCRI will likely achieve the same outcome as the proposed requirements under AB 249.

In an effort to address concerns raised by the opposition to the bill, the author amended the measure on September 1 to, among other provisions, require the state board to work with community water systems and school sites to eliminate duplicative testing that may occur based on applicable USEPA requirements on or before January 1, 2027, including through application for a waiver from those requirements.

The state board also weighed in with proposed amendments that would have eliminated the mandatory testing part of the bill and replaced it with a proposed new grant program. The author and sponsors rejected those amendments at the last minute, testing where the Governor lands on the measure.

The Department of Finance has an oppose position on the measure stating that the bill would result in significant ongoing General Fund (GF) costs; increase Safe Drinking Water Account costs in excess of the statutory cap of 5 percent and increases to fee payers that have already faced substantial fee increases over the last several years; is likely to create a reimbursable state mandate with ongoing Proposition 98 GF costs that could range into the hundreds of millions due to its requirements on LEA's; and concerns over the establishment of a two-tiered water quality testing standard in California.

Despite the bill's provisions creating duplicative, costly, requirements, AB 249 passed the Senate on a 35 to 3 vote and the Assembly on a 71-8 vote on concurrence with Senate amendments. Senator Alvarado-Gil voted against AB 249, as did Assembly Members Meghan Dahle and Joe Patterson. AB 249 was enrolled and presented to the Governor on September 20, 2023. The Governor vetoed AB 249, writing, in part:

“While I support the author’s commitment to ensure safe drinking water in schools, this bill contains several problematic provisions and cannot be implemented as drafted. The bill creates an entirely new enforcement role for the State Water Board, requires the creation of a costly database for tracking compliance and enforcement, and contains an infeasible implementation timeline.”

As he wrote in veto messages last year, Governor Newsom noted on AB 249 and other legislation that he worked with the legislature to close significant revenue shortfalls.

“This year, however, the Legislature sent me bills outside the budget process that, if all enacted, would add nearly \$19 billion of accounted costs in the budget, of which \$11 billion would be ongoing. With our state facing continued economic risk and revenue uncertainty, it is important to remain disciplined when considering bills with significant fiscal implications...”

Fuel Reduction Projects Included under Public Works Definition

Current law generally requires that workers employed on public works projects be paid no less than the general prevailing rate of per diem wages, determined by the Director of Industrial Relations. Current law defines the term “public works” for purposes of requirements regarding the payment of prevailing wages to include construction, alteration, demolition, installation, or repair work done under contract and paid for using public funds.

AB 338, as introduced, would have, beginning on January 1, 2025, expand the definition of “public works,” to include fuel reduction work paid for in whole or in part by public funds performed as part of a fire mitigation project, including but not limited to, residential chipping, rural road fuel breaks, fire breaks, and vegetation management. The bill would only apply to contracts in excess of \$100,000.

The measure was essentially a reintroduction of last year’s AB 1717, which was vetoed by Governor Newsom, who stated in his veto message a concern that *“adding these projects to the definition of “public works” would introduce delays to critical fire mitigation projects necessary to protect vulnerable communities in the state. Such delays are a function of the administrative requirements that are imposed when executing a public works project. I am directing my administration to work with the Legislature and sponsors of this bill to further examine this issue and propose solutions to ensure that we are both paying this critical workforce fairly while not unduly delaying these projects that protect people’s lives and livelihoods. I look forward to working with the Legislature on this important issue in the next legislative session.”*

EID opposed AB 1717 last year and held the same position on AB 338 throughout this session for the same reasons. The District argued that just like AB 1717, AB 338 would threaten the pace and scale of vegetation fuel reduction projects at a time when such projects are needed to reduce the number of extreme wildfire events in California.

Most local agencies, including the District, typically contract out for vegetation management around reservoirs and treatment plants and participate with both federal and state agencies on landscape-scale forest health and watershed resilience projects that simultaneously reduce wildfire risk while protecting and improving water quality and quantity. AB 338 would trigger numerous requirements and obligations for local agencies, including mandatory procurement and contract provisions, contractor and

project registration with the Department of Industrial Relations, and payment at prevailing wage rates. This, in turn, would substantially increase the cost of fuel reduction projects, potentially doubling labor costs for work that would be subject to prevailing wage.

According to the Senate Appropriations analysis, AB 338 would result in increased costs for grantees, fewer acres treated, and increased cost pressures to fund more fuel reduction projects. Further, in light of the state's diminishing state funding revenues, state agencies, like CAL FIRE, will struggle to meet the state's own wildfire resilience goals under the provisions of the bill. Thus, AB 338 would hamper the efficiency of wildfire mitigation projects, like fuel reduction work—the complete opposite of the author's intentions behind the bill.

Concerned that AB 338 would suffer the same fate as AB 1717, the author amended the measure on September 8, to instead require, commencing July 1, 2026, fuel reduction work, done under contract and paid for in whole or in part out of public funds to meet several standards, including that all workers performing work within an apprenticeable occupation in the building and construction trades be paid at least the general prevailing rate of per diem wages; and authorize the Labor Commissioner to enforce the requirement to pay prevailing wages. The amendments also would exempt from these requirements contracts in the amount of \$500,000 or less.

The bill passed the Senate on a 30-8 vote and the Assembly on concurrence with Senate amendments on a 65-8 vote. Senator Alvarado-Gil voted against AB 338, as did Assembly Members Meghan Dahle and Joe Patterson. EID remained opposed to AB 338 and again sought a veto of the measure by Governor Newsom.

Governor Newsom signed AB 338 into law on October 7. (Chapter ____; Statutes of 2023)

Drinking Water Benzene Testing—Wildfire Aftermath

The California Safe Drinking Water Act provides for the operation of public water systems and imposes on the State Water Resources Control Board (board) various responsibilities and duties relating to the regulation of drinking water to protect public health.

Assembly Bill 541, by Assemblymember Jim Wood (D-Santa Rosa), would direct the board, on or after January 1, 2024, to require a public water system, water corporation, or water District that has experienced a major wildfire event within their service territory to test their water source for the presence of benzene immediately following that major wildfire event.

It is well-documented that drinking water systems in wildfire-damaged areas may be contaminated with benzene and other volatile organic compounds, requiring prevention and rapid response to protect the health of returning residents. Volatile organic

compounds and benzene in tap water were first reported after the Tubbs Fire in Santa Rosa, California in 2017. The board recognizes that public water systems must conduct post-fire testing and clear water mains and service lines to standing homes.

EID took an “oppose unless amended” position on AB 541. While the District argued that safe drinking water statutes and regulations already provided adequate authority to the state board to ensure appropriate water system response to wildfire events, the District also believed that AB 541 could be improved if it was amended to reflect recent research. Based on available data, water distribution contamination is believed to occur from pyrolysis and heating of plastic and synthetic pipe materials, and smoke and combustion byproducts entering the distribution lines when they depressurize during a fire. Thus, instead of testing the water source, EID requested that the bill be amended to exempt wildfire-damaged areas where damage to structures is absent from being required to test drinking water in the distribution system for the presence of benzene. Our firm also requested that the bill specify that existing distribution monitoring protocols and sampling sites be relied upon for areas where structures were damaged or destroyed. Additionally, our firm noted that the term “immediately” is subject to interpretation and suggested that the bill be amended to direct the board to ensure that regulations or guidance regarding post-wildfire monitoring, sampling, and mitigation of impacts to drinking water systems are adopted by a specific time.

On May 30, 2023, the bill was amended to specify that the benzene testing requirements would apply to public water systems that experienced a wildfire event of 300 acres or more and damaged or destroyed a dwelling or dwellings connected to the public water system’s water distribution system. Further, the amendments specified that the public water system would be required to perform a sample collection and analysis for the presence of benzene no more than 15 days after the wildfire event. In the event that an evacuation order prevents a public water system from accessing its water source for more than 15 days, the amendments clarified that a public water system must perform the benzene testing requirements immediately once access to the water source is restored.

EID removed its opposition to AB 541 based on these amendments. The bill passed the Senate on a 38-0 vote, and the Assembly on concurrence in Senate amendments on an 80-0 vote. Senator Alvarado-Gil voted “AYE” as did Assembly Members Meghan Dahle and Joe Patterson. Governor Newsom signed the bill into law on October 9.

State Water Pollution Cleanup and Abatement Account

Assembly Bill 753, by Assemblymember Diane Papan (D-San Mateo), would require 40 percent of the annual proceeds of the State Water Pollution Cleanup and Abatement Account (CAA), excluding administratively imposed civil liabilities that include a supplemental environmental project in connection with a monetary penalty, to be annually transferred to the newly created Waterway Recovery Account within the Waste Discharge Permit Fund. Funds in the Waterway Recovery Account would be continuously appropriated to the State Water Resources Control Board and allocated to

each regional board on a proportional basis based on money generated in each region. The bill would require regional boards to allocate money to third parties for restoration projects to improve water quality, and priority would be given to a third party that will undertake projects with multiple benefits that provide greenspace within disadvantaged communities. Regional boards must, to the best of their ability, use money from the Waterway Recovery Account to fund projects with a significant nexus to the community harmed by the original water quality violation.

According to Assemblymember Papan, the bill will simply “reallocate existing funds to ensure that Regional Water Boards have the ability, as they have in the past, to be adaptable to the most pressing water quality issues within that region.” The bill’s language, however, specifically places a priority on projects that provide greenspace to disadvantaged communities.

The CAA is significantly underfunded and oversubscribed and the provisions of AB 753 would make it more difficult for water boards to direct funds to time-sensitive efforts such as hazard mitigation during post-wildfire clean-up and emergency drinking water needs. Though the development of urban greening projects may provide both public health and climate resiliency benefits, EID opposed AB 753 and argued that such projects should be supported by more appropriate funding sources.

The CAA was created to provide grants for the cleanup or abatement of a condition of pollution when there are no viable responsible parties available to undertake the work. The Account is supported by court judgments and administrative civil liabilities assessed by the state board and the regional boards. In December 2018, the state board established funding priorities for the Account with the top priority being (1) emergency projects that require immediate action to mitigate a significant threat to the environment or a threat to public health and safety, and (2) urgent drinking water needs.

Urban greening projects in disadvantaged communities, hardly rise to meet the standards established by the state board to utilize the Cleanup and Abatement Account, and yet, AB 753 would redirect an existing essential funding source used to respond to immediate and public health threats to fund such projects.

The Department of Finance has also taken an oppose position on the bill stating as a reason, in part, that *“the CAA is used to provide grants to clean up a waste, abating the effects of a waste on waters of the state, or to address urgent drinking water needs. Those needs are greater than the amount available in the Cleanup and Abatement Account each year, and this bill would further expand the purpose of the CAA while removing 40 percent of its annual revenue.”*

AB 753 passed the Senate 32-6 and the Assembly on concurrence in Senate amendments 79-1. Senator Alvarado-Gil abstained from voting on the Senate Floor, while Assembly Members Dahle and Joe Patterson cast “AYE” votes. The bill was enrolled and presented to the governor on September 19. Governor Newsom, echoing concerns expressed by EID and his Department of Finance, vetoed the legislation.

Water management planning and water shortages

Existing law requires every urban water supplier to prepare and adopt a water shortage contingency plan as part of its urban water management plan that consists of each of the following elements: (1) an analysis of water supply reliability; (2) procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both the written decision-making process that an urban water supplier will use each year to determine its water supply reliability, and the key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year.

Assembly Bill 754, by Assemblymember Diane Papan (D-San Mateo), would additionally require an urban water supplier, if a single reservoir constitutes at least 50% of the total water supply, to identify the dam and describe existing reservoir management operations. Similar requirements would be imposed on agricultural water suppliers.

According to the author, "the state eagerly uses all available water immediately after wet years and does not conserve until crisis hits. We must start planning for severe droughts rather than scrambling to react when faced with water shortages. The worst time to plan for drought is during drought. To better handle California's water crisis, California must learn to adapt to these extreme weather fluctuations and conserve water from the wet years before drought. To deal with these issues, [this bill] simply requires agricultural and urban water suppliers to initiate demand-side conservation triggered by reservoir storage levels. These plans will change our management from reactive to proactive." The bill's sponsor, the California Coastkeeper Alliance, presented similar arguments to the author and argued that AB 754 is necessary so that both urban and agricultural water suppliers exercise greater foresight in planning for periods of drought to ensure demand-side conservation actions are adopted once in drought. The sponsors further asserted that urban water suppliers draw down reservoir levels as a first response to drought rather than taking steps to reduce demand during such periods.

Both the author's and sponsor's depictions of reservoir owners and their operations, however, are inaccurate and baseless. Our firm noted in communications with committees that AB 754 is sponsored and supported by environmental organizations that lack the expertise and experience of the engineers, hydrologists, and other professionals that operate sophisticated water systems. This is exemplified in the bill's core provisions, which are unnecessary and overly simplistic.

Water agencies that rely on reservoirs as water sources are already required by law to develop water shortage contingency plans, which require an assessment of water supply reliability, requiring identification of six standard water shortage levels corresponding to 10%, 20%, 30%, 40%, 50%, and greater than 50% shortages. Further, water agencies that rely on locally managed reservoirs are already accounting for the

issues AB 754 seeks to address in their planning documents and through licensing and other agreements with state and federal entities. These licenses and agreements take numerous factors into account including the water year and environmental needs among others. AB 754, however, would require additional information such as the range of historic annual inflows into the reservoir, the range of historic annual outflows from the reservoir, the range of historic annual carryover volumes for the reservoir, the purposes for which the reservoir is operated, existing regulatory requirements, including instream flow requirements downstream of the reservoir, and more—all of which are unnecessary for an urban water management plan. Such additional requirements would also result in significant state and local implementation costs.

Further, while many agencies rely upon a single reservoir for a significant portion of their supply, they likely have other supplies that they manage in conjunction, including groundwater, recycled water, surface water, desalinated water, or other potential supplies. Additionally, though a water provider may receive water from a reservoir, for many water providers, that reservoir may be owned and operated by the U.S. Bureau of Reclamation and/or is part of the larger State Water Project or Central Valley Project, and the requirements placed on water providers would be based on reservoir actions that are out of their control and based on complex and diverse information about the current and expected supply among other factors.

EID's own portfolio provides an excellent example of the complexity of reservoir operations that the author, sponsors, and supporters of AB 754 fail to understand. Five of EID's raw water storage reservoirs are utilized for recreation: Jenkinson at Sly Park Recreation Area, Caples, Silver, Echo, and Forebay. EID also utilizes water to generate clean energy with a 21-megawatt hydroelectric powerhouse federally licensed as Project 184. The project and its water come from four high-elevation raw water storage reservoirs/lakes: Caples and Silver lakes along Highway 88 and Lake Aloha and Echo Lake located north of the Highway 50 corridor. Finally, EID also has a long-term contract with the U.S. Bureau of Reclamation for the District's 17,000 acre-foot Permit 21112 water right currently diverted at Folsom Lake.

AB 754, however, would inappropriately force agencies to make water shortage and conservation decisions based on only one source of supply, rather than considering the full portfolio of water supplies and water supply goals. Making conservation decisions based on a reservoir level in isolation from all other water resources would lead to defective decision-making, potentially impeding critical activities such as groundwater recharge.

EID strongly opposed AB 754 and joined a coalition of other water providers to stop the bill from progressing. Though the bill passed the Assembly on a 59-18 vote, with 3 members not voting, AB 754 was ultimately held on suspense in the Senate Appropriations Committee. Assembly Members Meghan Dahle and Joe Patterson voted against the legislation on the Assembly Floor.

Water Usage Demand Analysis

Water rates reflect the overall cost of service incurred by a water agency to deliver water to its customers; these rates consist of several factors, including the condition of the infrastructure, water treatment, geographic location, the number of customers, and more. Revenue generated by rates covers the costs of service, including the operation, upgrade, and maintenance of the water delivery system, treatment plants, and other water infrastructure. To establish water rates, water agencies conduct a cost-of-service analysis to determine a rate model and methodology.

Assembly Bill 755, by Assemblymember Diane Papan (D-San Mateo), would require a public entity to conduct a water usage and demand analysis prior to completing, or as part of, a cost-of-service analysis conducted to set fees and charges for water service that are consistent with applicable law. The bill would require a public entity to identify within the analysis the costs of water service for high water users incurred by the public entity and the average annual volume of water delivered to high water users. The bill would also require the costs of water service for the highest water users and the average annual volume of water delivered to high water users to be made publicly available by posting the information on the public entity's cost-of-service analysis.

The bill defines "cost of water service for the highest users" as the difference in costs, including applicable capital costs and operation and maintenance costs, that the public entity incurs directly, or by contract, because of the increased water service required by its high-water users. "High water users" is defined as the top ten percent of water, in terms of volume of water consumed. Alternatively, for a public entity that has allocation-based conservation water pricing, the public entity may define high water users as those customers whose water use is above the water budget assigned to them by that public entity.

The overall goal of AB 755 is essentially to determine how major water users affect system wide costs to serve as a basis for a fair and equitable rate structure and to incentivize major water users to conserve. The authors believe that AB 755 will address the concern that the maximum water demand is driven by major water users, increasing the need for a larger water supply, increased infrastructure, efforts to conserve the systems water, and other investments that would ultimately increase a water agency's overall cost and increase rates for customers.

"In drought, these issues are especially exacerbated, as temporary additional water supplies and conservation programs can be costly," stated Assemblymember Papan. "For people who conserve water and keep demand low, many of the public utilities costly investments are unnecessary."

The bill was sponsored by the California Coastkeeper Alliance which argued that the bill will "ensure Californians pay a fair price for water" by requiring water utilities to determine how the heaviest water users in their service area drive up the cost." The Coastkeeper's offered similar statements as the author, noting that an analysis

indicated larger lot single family residences in more affluent neighborhoods are typically the highest water users.

As with other bills sponsored by the California Coastkeeper Alliance introduced this session, AB 755 reflected a rudimentary and misguided understanding of public water systems. AB 755 would require systems to identify the incremental costs that would be avoided if major water users met the state board's Urban Water Use Efficiency standards. Such an analysis, however, would introduce the use of hypotheticals into a cost-of-service analysis, which is typically used by systems to demonstrate their compliance with Proposition 218. The latter places restrictions on how local agencies impose fees, or special assessments, to cover the cost of providing property-related services. To comply with Proposition 218, water agencies undertake detailed cost studies to establish the basis upon which the amount of a proposed fee or charge is calculated, notify customers of the proposed fee or charge, and hold public hearings on the proposed fee or charge. By adding incremental costs of high-water users into the cost-of-service analysis, public water agencies could be forced to include speculative numbers to satisfy the demands of the bill. This, in turn, would result in hypothetical analysis for the new rates in the new cost-of-service analysis, and create uncertainty in the methodology used to establish rates.

The local agency has the burden of proof to show that rates, fees and charges satisfy the requirements of Proposition 218 if a water supplier's rates are challenged. Under this legislation, if a court does not understand the cost-of-service analysis, it may find that the agency is imposing disproportionate or unreasonable rates on certain water users and therefore violating Proposition 218.

Additionally, though some of the information required by AB 755 may be readily available to some water systems, others will find it more challenging and time consuming to accurately determine the direct impact of high-water users on a wide range of costs necessary to include in the cost-of-service analysis. As with other bills, the author and sponsor assume that all water systems possess the same capabilities in meeting the requirements of the bill, not taking into account the complexity and unique needs individual water systems are working with throughout the state.

EID opposed AB 755. The Association of California Water Agencies (ACWA) worked with the author throughout the legislative session and on August 25, 2023, ACWA noted that Assemblymember Papan intended to make the requirements of her bill permissive instead of mandatory. Many ACWA member agencies, including the District, voted to remove opposition based on the author's intent. Assemblymember Papan, however, changed her mind mere weeks before the September 14, 2023 deadline to pass bills. Despite this turn of events, ACWA decided to maintain a neutral position on the bill. The District, along with several others, continued to oppose AB 755.

AB 755 passed the Senate on a 28-10 vote, and passed the Assembly on concurrence with Senate amendments on a 60-18 vote. Senator Alvarado-Gil voted "NO" as did

Assembly Members Meghan Dahle and Joe Patterson. Governor Newsom signed AB 755 into law on October 9.

Temporary Public Employees

The Meyers-Milias-Brown Act (Act) authorizes local public employees to form, join, and participate in the activities of employee organizations of their own choosing for the purpose of representation on matters of labor relations. Current law generally requires that the scope of representation under the act include all matters relating to employment conditions and employer-employee relations, while accepting the consideration of the merits, necessity, or organization of any service or activity provided by law or executive order.

Assembly Bill 1484, by Assemblymember Rick Chavez Zbur (D-Los Angeles), would amend the Act to require local agencies to include temporary employees in the same bargaining unit as permanent employees performing the same type of work upon request of the recognized employee organization to the public employer, among other provisions. The bill defines "temporary employee" to mean a temporary, casual, seasonal, periodic, extra-help, relief, limited term, or per diem employee, or any other public employee who has not been hired for a permanent position.

EID opposed AB 1484 as the bill would impose additional requirements on public employers and create ambiguity and unnecessary confusion for temporary employees. Overall, the bill would likely result in greater liability and costs to public agencies, greatly affecting the District's ability and management right to make unencumbered business decisions.

First, there is no expectation of continued employment or a guarantee that a temporary assignment will convert to a permanent position with a public agency. The need for such employees is typically driven by temporary needs such as emergencies, staffing changes, illnesses, special projects, work subject to seasonal peaks and valleys, etc. Temporary employees are therefore hired on an "as needed basis" and thus it would make little sense to hire a permanent employee only to turn-around and lay them off within a relatively short period of time. The duration of most temporary employee assignments at EID is typically 90 days or less.

In most cases, temporary employees cannot perform the full scope of their duties as compared to permanent employees who have had the benefit of extensive training and on-the-job experience. As such, the cost of utilizing temporary employees (with limited ability to perform the full range of duties) would result in higher costs for employers, which in the case of a special District, translates to increases for the ratepayer. AB 1484 would cloud the status of temporary employees and most likely result in litigation which will increase the cost/benefit ratio, thereby ending EID's use of these employees and negatively impacting both the prospective temporary employees and the ratepayer.

Secondly, EID already provides orientation to its temporary employees, including training on anti-discrimination and information on benefits and employment opportunities. Therefore, it is unclear how this bill will increase protections for temporary employees. Further, past hiring decisions at EID indicate that many temporary employees have successfully competed and obtained permanent employment with EID as a direct result of their temporary job assignment.

Temporary employees provide flexibility and a scalable response to service or emergency demands. The District argued that though the author intended AB 1484 to provide more protections for temporary employees, the bill's provisions will likely discourage local governments from hiring such employees, and reduce temporary employment opportunities statewide.

AB 1484 passed the Senate 26-11 and passed the Assembly on concurrence in Senate amendments 59-15. Senator Alvarado-Gil voted against the bill as did Assembly Members Meghan Dahle and Joe Patterson. AB 1484 was enrolled and presented to the Governor on September 21, 2023. Governor Newsom has until October 14 to act on the measure.

Potable Water Irrigation for Nonfunctional Turf

Assembly Bill 1572, by Assemblymember Laura Friedman (D-Burbank), would prohibit the use of potable water for the irrigation of nonfunctional turf located on commercial, industrial, and institutional properties, other than a cemetery, and on properties of homeowners' associations, common interest developments, and community service organizations or similar entities. The bill would also authorize the state board to create a form of compliance certification and authorize a public water system to enforce provisions.

According to Assemblymember Friedman, AB 1572 is a response to the "urgent need for additional efforts to reduce unnecessary water use in urban areas." The author further states that "a large portion of California's treated drinking water is used to irrigate urban landscapes. In a year without drought restrictions, roughly half of all publicly supplied water is used outdoors, primarily for landscape irrigation.... In a study published in 2005, it was estimated that California had approximately 2.75 million acres of turf grass. Nearly all this turf requires irrigation to survive, and nearly all the irrigation is with treated drinking water."

EID strongly opposed AB 1572, arguing that, like many previous proposals, AB 1572 is based on a path of scarcity, imposing restrictions and prohibitions on public water systems on a selective basis. By imposing a statewide prohibition against the use of potable water to irrigate nonfunctional turf, the bill not only ignores variabilities among local water supply and water use factors but also clearly counters the legislative intent of existing law written by the same author, AB 1668 (Chapter 15, Statutes of 2018).

The author cites an introductory statement contained in the Newsom Administration's August 2022 *"California Water Supply Strategy: Adapting to a Hotter, Drier Future"* that states climate change will leave less water to meet the needs of California. Current climate models indicate that rising temperatures will increase evaporation. This will result in storm-affected areas more likely to experience increases in precipitation and flooding, while areas located away from storm tracks will experience less precipitation and be at greater risk of drought. Current climate assessments indicate that the Southwestern United States is the most likely to experience less rainfall; however, there is little evidence to support a finding that "climate change will bring significant enduring reductions in California's water supply" in terms of water supply from Northern California.

In 2018, the Legislature enacted Assemblymember Friedman's AB 1668, which established a method to "estimate the aggregate amount of water that would have been delivered the previous year by an urban retail water supplier if all that water had been used efficiently. This estimated aggregate water use is the urban retail water supplier's urban water use objective. The method is based on water use efficiency standards and local service area characteristics for that year. By comparing the amount of water actually used in the previous year with the urban water use objective, local urban water suppliers will be in a better position to help eliminate unnecessary use of water; that is, water used in excess of that needed to accomplish the intended beneficial use." AB 1668 stated the intent of the Legislature that urban retail water suppliers should have primary responsibility for meeting standards-based water use targets and shall retain the flexibility to develop their water supply portfolios, design and implement water conservation strategies, educate their customers, and enforce their rules. AB 1572 clearly counters this legislative intent.

Finally, existing law requires urban retail water suppliers to match water supply and demand over 20 years in all water year types through development, adoption, and implementation of urban water management plans. Additionally, the State Water Resources Control Board is in the midst of considering regulations to implement Making Water Conservation a Way of Life. Water systems were promised flexibility to meet their urban water use objective, which includes residential outdoor water use and Commercial, Industrial, and Institutional outdoor water use. AB 1572, by contrast, imposes a one-size-fits-all mandate across all urban areas. Urban retail water suppliers have authority to limit or prohibit the irrigation of turf grass and outdoor landscape in periods of drought. A prohibition across the state is unnecessary.

AB 1572 passed Senate 29-10 and the Assembly on concurrence in Senate amendments 55-18. Senator Alvarado-Gil voted against AB 1572 as did Assembly Members Meghan Dahle and Joe Patterson. On September 20, 2023, the bill was enrolled and presented to the Governor. Newsom has until October 14 to act on the measure.

Medium and Heavy-Duty Zero Emission Vehicles

Assembly Bill 1594, by Assemblymember Eduardo Garcia (D-Coachella), would require any state regulation that seeks to require, or otherwise compel, the procurement of medium- and heavy-duty zero emission vehicles (ZEVs) to authorize public agency utilities to purchase replacements for traditional utility-specialized vehicles that are the end of life when needed to maintain reliable service and respond to major foreseeable events, including severe weather, wildfires, natural disasters, and physical attacks. The bill would include a community water system, water District, and wastewater treatment provider in its definition of a public agency utility.

Executive Order No. N-79-20 establishes the goal of transitioning medium- and heavy-duty vehicles in California to zero-emission vehicles by 2045 for all operations where feasible and by 2035 for drayage trucks, and requires the California Air Resources Board (CARB) to develop and propose medium- and heavy-duty vehicle regulations to meet that goal.

In April 2023, CARB approved the Advanced Clean Fleets (ACF) regulations which will require fleet owners operating vehicles for private services, federal fleets, and state and local government fleets, will begin their transition toward ZEVs. Starting in 2024, the ACF regulations will require state and local government fleets to ensure that 50 percent of vehicle purchases are ZEVs; by 2027, this requirement will increase to 100 percent. While the regulations possess certain exemptions, several water agencies voiced concerns to CARB that these exemptions will likely be insufficient to ensure water agencies are able to accomplish their core functions and respond to emergencies.

For example, the ACF regulations' definition of "emergency" does not include emergency events that water agencies respond to, such as water line breaks and sewer spills. Water agencies rely on their fleets to prevent disruption of service and continue compliance with water standards. The regulations' definitions of "emergency operations" or "emergency support vehicle" do not even include vehicles that water agencies typically deploy to repair water service or wastewater infrastructure. The regulations pose further issues for agencies or Districts that serve areas subject to public safety power shutoffs. ZEVs require constant and consistent access to necessary power to remain reliable. Some areas, however, are at the mercy of unreliable and insufficient electric grids. Over the last several years, El Dorado County, EIDs service area, has experienced several public safety power shutoffs, some of which have lasted several days. This is the reality for several agencies and Districts throughout the state. Thus, the regulations could compromise the ability of agencies to reliably provide critical water and wastewater service and to respond to emergency conditions.

The District supported AB 1594 as it fills in several blanks in CARB's ACF regulations, accounting for the unique needs of water agencies throughout the state. By allowing water agencies to continue using non-ZEVs should ZEVs be insufficient to support an agency's ability to maintain reliable water service, including emergency situations, AB 1594 allows for a more balanced approach towards meeting the state's ZEV goals.

AB 1594 enjoyed bipartisan support in both houses of the Legislature. The bill passed unanimously in the Assembly, and passed the Senate with a 34-1 vote. The bill was enrolled and presented to the governor on September 21. Governor Newsom signed the bill into law on October 8. The new law is effective January 1, 2024.

AB 1594 requires any state regulation requiring the procurement of medium- and heavy-duty vehicles, such as CARB's ACF rule, to authorize public agency utilities to purchase replacements for traditional utility specialized vehicles that are at the "end of life" — when needed to maintain reliable service and respond to major foreseeable events, including but not limited to severe weather, wildfires, natural disasters, and physical attacks — without regard to the model year of the vehicle being replaced. CARB will determine, in consultation with public agency utilities, what "end of life" means.

The law throws out an arbitrary restriction on a vehicle's model year and enables utilities and water agencies to access four key existing accommodations in the rule: (1) the Daily Usage Exemption, (2) the ZEV Purchase Exemption, (3) the Site Electrification Delay, and (4) the Infrastructure Construction Delay. State organizations like California Municipal Utilities Association will work with CARB on a process to determine what it means for a vehicle to reach the end of its useful life.

AB 1594 also allows a public agency utility to provide comprehensive usage data for a class of vehicles that does not exclusively rely on the lowest mileage reading and does not exclude the highest usage days. This provision modifies a flawed energy usage formula in the ACF's Daily Usage Exemption, which theoretically allowed a public agency to request replacement of a vehicle with a gas-powered vehicle if available ZEV versions could not perform the same functions; the underlying formula in the ACF required a utility to use an energy usage formula that excludes the three highest energy usage days.

2023 Water Rights Legislation

In 2022, the Planning and Conservation League (PCL) convened a group of water law and policy professionals to develop recommendations for Updating California Water Laws to Address Drought and Climate Change. The report, titled "Updating California Water Laws to Address Drought and Climate Change," contains 11 recommendations to modernize California's water rights law. All recommendations in the report are characterized as focused approaches to updating existing laws, regulations, and funding.

PCL noted that it recognized these recommendations can and should be scrutinized and refined in the various public processes, writing, in part:

"Some are more detailed all the way to the proposed legislative language. Others are more generally described. Although we gave them the best consideration we could in the time available, there will undoubtedly be additional drafting and

implementation issues that will need to be considered. Also, we recognize that this is not a complete list of all needed upgrades. We hope that others will add their contributions to the process.”

This year, PCL co-sponsored three bills that would essentially restructure California’s water rights system: Senate Bill 389 by Senator Ben Allen (D-Santa Monica), Assembly Bill 460 by Assemblymember Rebecca Bauer-Kahan (D-Orinda), Assembly Bill 1337 by Assemblymember Buffy Wicks (D-Oakland).

EID opposed all three bills. Joining a coalition that consisted of business properties associations, the California State Association of Counties (CSAC), the Association of California Water Agencies (ACWA), the California Municipal Utilities Association (CMUA), several other water Districts, and building associations, (collectively referred to in this section as “Coalition”) our firm continuously engaged legislators and legislative staff as the bill moved through the legislative process, aiming to halt their progress at every step.

Senate Bill 389

Current law authorizes the State Water Resources Control Board (State Water Board) to investigate bodies of water, to take testimony in regard to the rights of water or the use of water, and to ascertain whether or not water is appropriated lawfully. Under existing law, the diversion or use of water other than as authorized by specified provisions of law is a trespass and subject to civil liability.

In its early iteration, SB 389 would authorize the Board to investigate the diversion and use of water from a stream system to determine whether the diversion and use are based upon appropriations, riparian right, or other basis of right. The bill would allow the Board, in furtherance of an investigation, to issue an information to a water right claimant, diverter, or user, to provide technical reports or other information related to a diversion and use of water, including, among others, information related to the basis of the water right claimed; information related to the patent date claimed for the place of use; and information related to the notice date of the appropriation and the date of actual delivery of water to beneficial use.

The bill would, after notice and opportunity for hearing, authorize the Board to issue a decision or order determining the diversion and use basis of right, including the authorized scope of the diversion and use, or issue a decision or order determining that the diversion and use is not authorized under any basis of right. In determining whether a holder of an appropriative water right has forfeited the right or any portion of the right, the Board would not be required to find the existence of a conflicting claim by any water right holder within the stream system during the period of forfeiture. Further, the bill would have placed the burden of proving by the preponderance of evidence the elements of the basis of right on the water right claimant in any State Water Board proceeding. The bill further provided that nothing in its provisions limited the authority of

the State Water Board to issue any decision or order, or to take any other action authorized by law.

EID opposed SB 389 as the bill presented significant concerns, namely that it would unjustly expand the authority of the Board and subject water right holders to costly and resource intensive investigations. SB 389 would not require the Board to provide a basis for initiating an investigation of a water right claim, meaning any claimant could be subject to an investigation at any time. Once an investigation is initiated, water right claimants would be subject to onerous reporting requirements, forced to provide countless amounts of information in the hopes of proving the validity of their right. In other words, the State Water Board would be able to drag any water rights holder before the board to defend its claim of right.

Once the Board begins adjudicating, the bill stacks the deck against all right holders by providing minimal due process protections and placing the burden of proof on the right holder. Though the bill includes an investigative process, the only opportunity for a claimant to participate is after notice and opportunity for a hearing; however, SB 389 provides no further details about the hearing process. The bill essentially would have allowed the Board to operate in the dark, without a fair and transparent process.

Additionally, by authorizing the Board to conclude that water rights have been forfeited in the absence of a conflicting claim, SB 389 disrupts settled law. Courts in California have long recognized there is no policy reason for finding a forfeiture until an alternative use has been asserted, as the purpose of the forfeiture doctrine is to free unused water for beneficial use. If no other beneficial use has been asserted, there is no reason to find a forfeiture.

In concert with the Coalition, our firm diligently worked on communicating how SB 389 would undermine the reliability of any water right, and in turn, all interests that depend on such rights. Senator Allen engaged the Coalition stating that the intent of SB 389 was to give the Board the authority to request information about riparian and pre-1914 water rights. The opposition coalition began negotiating amendments with the senator that would: remove the burden of proof and forfeiture elements of the bill; narrow the scope of information orders that the board may issue with limitations as to the burden of providing documents; and include a cross-reference to enforcement authority the Board has over an unauthorized use. By June, the Author, Senator Ben Allen (D-Santa Monica), committed to removing provisions related to forfeiture and expressed that he was open to further amendments to the bill.

By July, Senator Allen amended the bill to further address the Coalition's concerns with the measure. As amended, SB 389 would authorize the Board to investigate and ascertain whether or not a water right is valid. The bill would authorize the board to issue an information order in furtherance of an investigation, as executed by the executive director of the board, to a water right holder or claimant, diverter, or user to provide the information related to a diversion and use of water. Instead of the burden of proof being solely on the water right claimant, SB 389 was amended to state: "the

burden of any order issued under subdivision (b), including costs, shall bear a reasonable relationship to the need for the requested information and the benefits to be obtained from the board receiving that information.” Further, the Board would be required to provide the person to whom the request is directed with a written explanation with regard to the need for the information, and identify the evidence that supports requiring that person to provide the information.

Based on these amendments, the majority of the opposition coalition, including the District, removed their opposition to SB 389 and took a neutral or watch position on the bill. SB 389 passed the Assembly on a 58-17 vote and the Senate 30-8 on concurrence in Assembly amendments. Senator Alvarado-Gil voted against the bill as did Assembly Members Meghan Dahle and Joe Patterson.

Governor Newsom signed SB 389 into law on October 8, 2023 (Chapter ___; Statutes of 2023)

Assembly Bill 460

Current law authorizes the State Water Board to investigate all watercourses, take testimony relating to the rights to water or the use of water, and ascertain whether water filed upon or attempted to be appropriated is appropriated under the laws of the state. Current law requires the board to take appropriate actions to prevent waste or unreasonable use of water.

AB 460 would authorize the Board to issue, on its own motion or upon the petition of an interested party, an interim relief order to implement or enforce constitutional law, common law, and statutes regarding waste and unreasonable use, the public trust doctrine, and water quality objectives. The bill would provide that a person or entity that violates any interim relief order issued by the board would be liable to the board for a civil penalty.

Additionally, current law authorizes any party aggrieved by any decision or order of the Board to file a petition for a writ of mandate for judicial review of the decision or order. Current law requires a court to exercise its independent judgment on the evidence in any case involving the judicial review of certain cease and desist orders issued by the board and in any other case in which the court is authorized by law to exercise its independent judgment on the evidence.

AB 460 would require an aggrieved party to file a petition for reconsideration with the board to exhaust the party’s administrative remedies before filing an action for judicial review of the board’s decision or order. The bill would require the scope of review of a board decision or order regarding interim relief to be the same as for a court of appeal review of a superior court decision granting or denying a preliminary injunction. The bill would generally prohibit a legal or equitable process from issuing in any proceeding in a court against the Board to review, prevent, or enjoin certain adjudicative proceedings or a decision or order of the Board before a final decision or order of the Board is issued.

According to the Author, Assemblymember Rebecca Bauer-Kahan (D-Orinda), the bill is intended to give the State Water Board an additional tool to enforce existing law and enhance penalties to deter unlawful behavior. A coalition of environmental organizations similarly argued that the bill is necessary to ensure a “climate resilient future for fish, water, and people.”

The District, along with the rest of the opposition coalition, argued against AB 460 stating that the bill is overly broad, significantly expanding the Board’s existing enforcement authority, thus presenting a threat to law-abiding water right holders and water supply reliability.

Water agencies rely on their water rights to ensure there will be sufficient water to meet the needs of their customers and to serve future growth. Materially altering the water rights system in California could result in the inability of public water systems to meet existing needs and to plan for the future because they would lack certainty regarding their ability to divert or store water pursuant to their water rights permits and licenses. For example, a city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act, must identify any water system whose service area includes the project site and any water system adjacent to the project site that is, or may become as a result of supplying water to the project. Each public water system must verify that available water supply during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system’s existing and planned future uses, including agricultural and manufacturing uses. The assessment required must include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system.

AB 460 would also authorize the Board to issue interim relief on much broader issues than violations to drought-related curtailment orders. The bill would apply to enforcement of Fish and Game Code Section 5937; the Public Trust Doctrine; Section 2 of Article X of the California Constitution (the reasonable use doctrine); and water quality objectives, principles, or guidelines. Under this bill, any interested party that takes issue with dam releases could seek immediate state intervention and the bill would authorize the Board to take over dam operations. Additionally, this bill allows the Board to essentially determine the degree to which the public trust doctrine applies, a concept that courts have been unable to agree on a precise definition.

Finally, the bill also raises several due process concerns. AB 460 would allow the Board to issue interim relief without notice or opportunity for a hearing. Allowing the Board to act on its own motion to issue an order violates certain ensured protections. There already exists a process where the Board can seek short-term injunctive relief by

referring matters to the Attorney General. The scope of actions this bill targets requires fact-finding and balancing, which is only something an adjudicator should be able to do.

AB 460 would give the Board sweeping authority to address far more than just illegal diversions. The bill continues to change the standard of review for all final Board orders to one that is deferential to the Board's decisions. This will effectively deny the court its current role to make its own determination about Board actions.

Interim relief should only be reserved for very limited circumstances (i.e., quick responses to obvious illegal actions). It should not be a tool to enforce all areas within the Board's jurisdiction. Furthermore, the Senate Natural Resources and Water Committee's analysis implies that this new authority would enable the Board to make seismic changes to the ways water is managed at a moment's notice, without the benefit of a robust administrative process. This ability to rapidly change the status quo is yet another way that this bill puts law-abiding water users at risk.

Despite the potential effects of AB 460, the Assembly voted to pass the bill 43–20, with 17 members not voting. Throughout the bill's progress, Assemblymember Bauer-Kahan continued to signal disinterest in engaging with the opposition coalition and rejected suggested amendments from both ACWA and the CMUA. Based on this knowledge, our firm and the coalition focused on stopping AB 460's progress in the Senate Natural Resources and Water Committee. Though initial meeting requests with Committee Chair Dave Min (D-Irvine) were rejected, the opposition coalition was directed to meet with the committee consultant, who signaled that Senator Min had already decided to support the bill. Still, the coalition targeted 3 Democrats on the 11-member committee to either abstain or oppose the bill with Republican members to stop it from moving forward: Senators Melissa Hurtado (D-Sanger), Susan Talamantes Eggman (D-Stockton), and Steve Padilla (D-San Diego). With our efforts, all three committed to voting against AB 460.

Ultimately, Assemblymember Bauer-Kahan pulled AB 460 from the Senate Natural Resources & Water Committee hearing agenda on June 27, 2023. AB 460 is now a 2-year bill that will be eligible to be considered in 2024.

Assembly Bill 1337

Under existing law, the diversion or use of water authorized by specified provisions of law is a trespass. Existing law authorizes the Board to adopt emergency regulations if, among other things, the regulations are adopted to prevent the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion, of water, to promote water recycling or water conservation, to require curtailment of diversions when water is not available under the diverter's priority of right, or in furtherance of any of the foregoing, to require reporting of diversion or use or the preparation of monitoring reports. Existing law also authorizes the Board to issue a cease-and-desist order against a person who is violating, or threatening to violate, certain requirements relating to water use.

AB 1337 would authorize the Board to issue a curtailment order for any diversion, regardless of basis of right, when water is not available under the diverter's priority of right. Specifically, the bill would: (1) require the Board to adopt regulations governing implementation of curtailment orders; (2) authorize the Board to issue a cease-and-desist order when a water right holder fails to curtail diversions when water is unavailable under the water right holder's priority of right; and (3) expand the instances when unauthorized diversion or use of water is considered a trespass.

According to the author:

“Before California passed The Water Commission Act in 1914, our state’s water rights system was fundamentally unfair. It was exclusionary—the textbook definition of systemic racism—with Indigenous People and Californians of color literally forbidden from owning the land that was necessary to attain a water right...Now, more than one hundred years later, those who have inherited the pre-1914 water rights claim they were “first in time, first in line”, and oppose this bill because it would subject them to regulation by a state-appointed body...The State Water Resources Control Board already has the ability to curtail water use in order to balance legitimate demands from residents, agriculture, businesses, and the environment. However, it lost a court case against the same organizations that oppose this bill, and AB 1337 amends the law upon which that ruling was based.”

A coalition of environmental organizations wrote in support of the bill, arguing that the Board “lacks the authority to curtail all rights outside of a state-wide drought emergency” and that AB 1337 would “fully equip” the Board to manage the state’s water rights system.

The District, along with the rest of the coalition, argued that AB 1337 would essentially hand the State Board unfettered authority to control water as it sees fit. The Board’s use of curtailments to deal with water shortages during drought is a relatively new occurrence. With this unprecedented statutory authority, the Board would be able to curtail the legal diversion or use of water under any claim of right during any water year—even during years when the state receives record amounts of precipitation. There are also limited guardrails or guidance in the bill for how the Board would implement curtailments under the authority provided in this bill.

Curtailments have significant ramifications that extend far beyond the water right holders themselves. For example, the resulting reduction in anticipated water supply can disrupt agriculture, industry, and other water-dependent sectors, leading to job losses, revenue declines, and other economic hardships. Additionally, curtailment orders can disproportionately impact small and disadvantaged water users who may lack the resources to adapt to changing water conditions. Because of their effects, curtailments have historically—and should continue to be—reserved for use only during emergency drought conditions. By limiting curtailment to the most severe and urgent

water shortages, the Board can ensure that this tool is used only when necessary and that its impacts are mitigated.

Under AB 1337, curtailments could become an every-year water management tool, which would be an unnecessary task for the Board and threaten to create chaos in the way water is managed, diverted, and used.

AB 1337 narrowly passed the Assembly with a 45-20 vote, with 15 members not voting. Every single Assembly Republican, along with a handful of Democrats from the San Joaquin, voted against the bill. Though some Assembly Democrats voted against AB 460, these same members still voted to pass AB 1337 as they felt they could not vote against both bills.

Throughout the bill's progress, Assemblymember Wicks was resistant to working with the opposition. After passing the Assembly, our firm and the coalition focused on stopping AB 1337's progress in the Senate Natural Resources and Water Committee in tandem with efforts to stop AB 460. The coalition targeted the same (3) Democrats on the 11-member committee to either abstain or oppose the bill with Republican members to stop it from moving forward: Senators Melissa Hurtado (D-Sanger), Susan Talamantes Eggman (D-Stockton), and Steve Padilla (D-San Diego). With our efforts, all three committed to voting against AB 1337.

Ultimately, Assemblymember Wicks pulled AB 1337 from the Senate Natural Resources & Water Committee hearing agenda on June 21, 2023. AB 1337 is now a 2-year bill that will be eligible to be considered in 2024.

Climate Resilience Bond Legislation

According to July 2022 polling by the Public Policy Institute of California, Californians are most likely to name water supply and drought, followed by wildfires and climate change, as the most important environmental issues the state faces. In the same poll, overwhelming majorities raise concerns about water supply and protecting the condition of the state's oceans and beaches.

Bonds can be placed on the ballot by citizen's initiative and by the Legislature. Bonds are often used to finance capital outlay projects to help spread the cost over the years the proposed projects provide services. State voters have approved general obligation bonds for a variety of purposes including, for example, education, housing, high-speed rail, correctional facilities, and veterans.

With the overwhelming need to promote climate resilience in the state, legislators introduced climate resilience bonds to potentially be included in the November 2024 statewide election ballots. These include Senate Bill 638 by Senator Susan Eggman (D-Stockton) and Roger Niello (R-Roseville), Senate Bill 867 by Senator Ben Allen (D-Santa Monica), and Assembly Bill 1567 by Assemblymember Eduardo Garcia (D-Coachella).

Senate Bill 867 & Senate Bill 638

SB 867 would enact the Drought, Flood, and Water Resilience, Wildfire and Forest Resilience, Coastal Resilience, Extreme Heat Mitigation, Biodiversity and Nature-Based Climate Solutions, Climate Smart Agriculture, Park Creation and Outdoor Access, and Clean Energy Bond Act of 2024, which, if approved by the voters, would authorize the issuance of bonds in the amount of \$15,500,000,000 pursuant to the State General Obligation Bond Law to finance projects for drought, flood, and water resilience, wildfire and forest resilience, coastal resilience, extreme heat mitigation, biodiversity and nature-based climate solutions, climate smart agriculture, park creation and outdoor access, and clean energy programs.

The bill would specifically authorize \$5.2 billion, upon appropriation by the Legislature, for drought, flood, and water resilience programs. These would include: \$400 million to the State Water Board for projects that improve water quality or help provide clean, safe, and reliable drinking water; \$400 million to the Department of Water Resources (DWR) for groundwater projects that improve water resilience, including recharge, storage, banking, and conjunctive use; \$600 million for projects that protect and restore rivers, streams, lakes, and watersheds; and \$300 million for water reuse and recycling grants. The bill would also authorize \$3 billion for wildfire and forest resilience programs, including watershed improvement programs.

Similarly, SB 638 would enact the Climate Resiliency and Flood Protection Bond Act of 2024 which, if approved by the voters, would authorize the issuance of bonds in the amount of \$6,000,000,000 pursuant to the State General Obligation Bond Law, for flood protection and climate resiliency projects.

Provisions were added to both SB 638 and SB 867 that would prevent each bond from going into effect unless the other is also enacted.

AB 1567 would enact the Safe Drinking Water, Wildfire Prevention, Drought Preparation, Flood Protection, Extreme Heat Mitigation, Clean Energy, and Workforce Development Bond Act of 2024, which, if approved by the voters, would authorize the issuance of bonds in the amount of \$15,995,000,000 pursuant to the State General Obligation Bond Law to finance projects for safe drinking water, wildfire prevention, drought preparation, flood protection, extreme heat mitigation, clean energy, and workforce development programs. These would include: \$2.275 billion for the prevention and reduction in the risk of wildfires to lives, properties, and natural resources; \$5.255 billion for safe drinking water, drought preparation and response, and flood protection; \$1.59 billion for climate resilience and mitigation strategies to address increasing temperatures and extreme heat; and \$1.2 billion to strengthen climate resilience based on regional needs.

All bills would provide for the submission of their provisions to the voters at the November 5, 2024 statewide general election.

Our firm closely monitored the progress of all three bond bills and communicated the District's priorities for potential funding. All three bills await final consideration next year.

Assembly Constitutional Amendment No. 13

Assembly Constitutional Amendment (ACA) No.13, by Assemblymember Christopher Ward (D-San Diego) proposes to amend the California Constitution for two purposes: (1) to require an initiative constitutional amendment to comply with any increased voter approval threshold that it seeks to impose on future ballot measures; and (2) to guarantee in the state constitution the ability of local governments to submit advisory questions to voters.

ACA 13 provides that an initiative measure that includes one or more provisions that amend the California Constitution, and that increases the voter approval requirement to adopt any state or local measure, must receive a proportion of votes in favor of the initiative that is equal to or greater than the highest voter approval requirement imposed by the initiative for the adoption of a state or local measure. In simpler terms, if an initiative measure proposes to require a 2/3 vote of the electorate to impose a tax, then the initiative measure itself must be approved by a 2/3 vote of the electorate. The current voter threshold for passage is a majority vote.

ACA 13 also authorizes a local governing body, at any election, to hold an advisory vote concerning any issue of governance for the purpose of allowing voters within the jurisdiction to voice their opinions on the issue. The measure provides that an advisory question is approved only if a majority of the votes cast on the question are in favor and further provides that the results of the advisory vote are not controlling on the local governing body. Further, the provisions of this measure related to the vote requirement for initiative constitutional amendments apply only to initiatives that seek to make it more difficult for voters to take a specified action by approving a ballot measure. It does not affect the vote requirement for initiative constitutional amendments that seek only to make it harder for a governmental body to approve a specified action by increasing the vote by which that body must approve an action.

According to Assemblymember Ward:

“The Protect and Retain the Majority Vote Act, ACA 13, would retain the majority vote requirement for passage of state and local initiatives. ACA 13 will require proposed initiatives that seek to increase vote thresholds on future ballot measures to pass with that same proportional higher vote threshold. For example, a measure that would impose a two-thirds vote threshold on future measures should also pass with a two-thirds vote. Cities and counties also often place non-binding advisory measures on the ballot to allow voters to weigh in on various issues. This is a critical tool that allows voters to advise local government, and ACA 13 would protect the right of cities to place advisory questions on the ballot to ask voters their opinion on issues.”

ACA 13 was written in response to Initiative #1935—a measure that would amend the California Constitution to change the rules for how the state and local governments can impose taxes, fees, and other charges—which is slated to appear on the ballot during the 2024 statewide general election. Among other provisions, initiative #1935 requires that any local special tax be approved by a two-thirds vote of the electorate to take effect. Recent case law suggests that local special taxes that are proposed by a local initiative measure can be approved by a majority vote of the electorate. By contrast, local special taxes that are placed on the ballot by a local governmental body must be approved by a two-thirds vote of the electorate. Additionally, initiative #1935 prohibits an advisory measure from appearing on the same ballot as a local measure that proposes a general tax if the advisory measure would indicate that the revenue from the general tax will, could, or should be used for a specific purpose.

If ACA 13 were applied to the voter’s consideration of initiative #1935, then initiative #1935 would need to be approved by two-thirds of the voters to take effect—the very same threshold authors of the initiative seek to place on the local electorate for any local special tax to take place.

According to the California State Council of Service Employees international Union (SEIU California): “ACA 13 is simple. It would retain and protect the majority vote, require any initiative that increases voter approval requirements to also be approved at the higher level, and would ensure local governments can always ask voters for their opinion on issues.”

ACA 13 passed the Assembly 55-19 and the Senate with a 28–9 vote. Senator Alvarado-Gil and Assembly Members Meghan Dahle and Joe Patterson all voted against ACA 13.

It's tough to make predictions...⁶

Members of the Assembly and one-half of the 40-member State Senate will stand for election in 2024 with the primary election moved up to March 2024 to put California in a more influential position to vote on presidential candidates. Locally, Assembly Districts represented by Assemblymember Joe Patterson (R-Rocklin) and Assemblymember Meghan Dahle (R-Bieber) will appear on the ballot. Senator Alvarado-Gil will be mid-term in the California Senate and her District, along with state constitutional officers will be on the state ballot in 2026.

Ten State Senators and 8 Assemblymembers will be termed out of office in 2024, including many that hold important committee chair positions. In the Senate, term limited members include Anthony Portantino, chair of the Appropriations Committee; Nancy Skinner, chair of the Budget & Fiscal Review Committee; Bill Dodd, chair of the Governmental Organization Committee; Richard Roth, chair of the Business, Professions and Economic Development Committee; Steve Glazer, chair of the Elections and Constitutional Amendments Committee; Steve Bradford, chair of the

Energy, Utilities & Communications Committee; and Susan Talamantes Eggman, chair of the Health Committee. In the Assembly, Philip Ting, chair of the Budget Committee will term out, as also will Chris Holden, chair of the Appropriations Committee; Reginald Jones-Sawyer, chair of the Public Safety Committee; Brian Maienschein, chair of the Judiciary Committee; and Freddie Rodriguez, chair of the Emergency Management Committee.

The change in leadership in the Senate and Assembly, with Senate President pro tempore Atkins yielding her position to Senator McGuire next year and Speaker Rivas assuming his position at the end of this past June, in combination with the term limited members noted above, could signal new fiscal and policy directions for both houses. It is likely that some current policy committee chairs will be appointed to fill the soon-to-be vacant chairs. Changes could occur at any time ahead of the next session, which is scheduled to be gavelled into order on January 3, 2024.

Our firm expects efforts to be renewed to effect reform in water rights administration and enforcement. AB 460 by Bauer-Kahan and AB 1337 by Wicks both remain eligible for consideration by the Senate Natural Resources & Wildlife Committee anytime next year as late as July. The committee chair, Senator Dave Min (D-Irvine) is running for Congress next year and would have to vacate his Senate seat at the end of the 2023-24 Regular Session if he remains in the Congressional race. The latter circumstance could lead to a change in the committee chairmanship. The water rights opposition coalition prevailed on both bills by a one-vote margin, with Min supporting both bills. A new chair could sway the vote in committee, although it is unlikely that the current vote tally would change absent changes to the committee membership.

The task of influencing the content of a climate resilience bond will occupy our time next year and we will lean heavily on Senator Alvarado-Gil to press for funding categories and language that will benefit the District in terms of its ability to compete for state grant funding. Voter sentiment combined with a limit in the amount of state general obligation bond debt service will make it difficult to place on measure on the November ballot at a sufficient dollar total that will benefit many programs or projects. The Governor has indicated that he can only support a total of \$26 billion in new debt going before the voters next year, and a \$4.68 billion bond to build 10,000 new behavioral health beds and supportive housing units across the state will appear on the March primary election ballot. This means that a climate resilience bond, given competing housing and education bond proposals, will likely end up in the \$8 to \$10 billion range—far less than the \$16 billion proposals contained in AB 1567 and SB 867 (let alone the \$6 billion SB 638 flood risk reduction bond).

Our firm continues to monitor work on voluntary agreements among state, federal and local water entities that create new measures to integrate additional water flows with the physical landscape to help improve conditions for native fish in the Sacramento and San Joaquin rivers, their tributaries, and the Delta to which they drain. The agreements encompass an integrated program to improve the health of rivers more quickly and more holistically than the traditional regulatory proceedings underway by the state

board. Water suppliers in the Sacramento-San Joaquin Delta watershed not covered by a voluntary agreement will be subject to the regulatory requirements developed by the state board as part of its update to the Bay-Delta Water Quality Control Plan, which would include a mix of flow and potentially other measures to provide reasonable protection of fish, wildlife, agricultural, municipal, and other water uses.

According to the California Natural Resources Agency, parties are currently working to ensure the agreed-upon term sheet can go to the state board for its analysis as an alternative pathway to implement an updated Bay-Delta Water Quality Control Plan. Early implementation provisions of the MOU entered into by the parties mean that habitat restoration will not wait the two or more years it will take for the state board to complete its process. Some improvements are already underway. Signatories have begun creating the shared governance structure that will guide adaptive management under the agreements, and the state and water suppliers have already begun coordinating habitat restoration with flows.

The state board staff released its “Draft Scientific Basis Report Supplement in Support of Proposed Voluntary Agreements” in January 2023. The state board is holding a workshop on October 19, 2023, on a draft Staff Report/Substitute Environmental Document in support of possible updates to the Water Quality Control Plan for the San Francisco Bay/Sacramento San Joaquin Delta Estuary. The updates are focused on the Sacramento River watershed, Delta eastside tributaries, interior Delta, and Delta. Our firm also is monitoring the state board proposed regulations for “Making Water Conservation a Way of Life” that would implement the requirements of SB 606 (Hertzberg) and AB 1668 (Friedman) from 2018. We are members of several ACWA work groups and have shared communications from ACWA staff on the analysis and comments developed by the work groups with District staff. A public workshop on the proposed regulations was held on October 4, 2023, and the comment deadline is October 17, 2023. The regulatory framework proposed by state board staff would establish individualized efficiency goals for each Urban Retail Water Supplier like EID. The goals are based on the unique characteristics of the supplier’s service area and are intended to give suppliers the flexibility to implement locally appropriate solutions. Once implemented, state board staff estimate the achievement of the goals will reduce urban water use by more than 400-thousand-acre feet by 2030. Public water systems led by ACWA, and other state organizations expressed significant concerns with the draft regulations during the public workshop, including the estimated cost to achieve the estimated savings--\$13 billion statewide. Thankfully, state board members shared many concerns similar to those expressed during the public comment period.

¹ “A Debt Problem Is, At Its Core, a Budgeting Problem.” — Natalie Pace, The ABCs of Money

² “When it rains it pours. Maybe the art of life is to convert tough times to great experiences: we can choose to hate the rain or dance in it.” — Joan F. Marques

³ “He Who Sews Hurry Reaps Indigestion.” — Robert Louis Stevenson

⁴ “Changes in Attitude, Changes in Latitude;” Lyrics by Jimmy Buffett

⁵ “It is difficult to make our material condition better by the best law, but it is easy enough to ruin it by bad laws.” – President Theodore Roosevelt

⁶ “It’s tough to make predictions, especially about the future.” –Yogi Berra



Annual Legislative Report

El Dorado Irrigation District

October 23, 2023

SUMMARY OF ISSUE

- Reeb Government Relations actively monitored and engaged in direct lobbying on over 50 legislative bills on behalf of the District in 2023
- The State Legislative Session has closed for 2023
- Reeb Government Relations prepared a 2023 Annual Report
 - The report covers legislative and administrative developments

BACKGROUND DISCUSSION

STATE FISCAL OUTLOOK

- On June 27, 2023, the Governor signed the FY 2023-24 state budget, along with 20 budget trailer bills, approving a \$310 billion spending plan.
- The budget addressed a \$31.7 billion deficit while maintaining budget reserves.
- The Budget reflects \$632 million in General Fund reductions and \$455 million in delays across various programs.

BACKGROUND DISCUSSION

CLIMATE RESILIENCE BOND

- Legislative climate resilience bond proposals include SB 867 (Allen), AB 1567 (Garcia), and SB 638 (Eggman and Niello).
 - Allen and Garcia bond proposals total about \$16 billion each
 - Eggman and Niello bond sits at \$6 billion
- The three proposals may be combined into one state general obligation bond proposal for placement on the November 2024 General Election ballot.
 - will likely be between \$8 and \$10 billion
 - recent polling indicate state voters are hesitant to support significant issuance of new debt

BACKGROUND DISCUSSION

MEDIUM AND HEAVY-DUTY ZERO EMISSION VEHICLES (AB 1594)

- Would require any state regulation that seeks to require, or otherwise compel, the procurement of medium- and heavy-duty zero emission vehicles (ZEVs) to authorize public agency utilities to purchase replacements for traditional utility-specialized vehicles that are needed to maintain reliable service
- In April 2023, CARB approved the Advanced Clean Fleets (ACF) regulations which will require fleet owners operating vehicles for local government fleets to begin their transition toward ZEVs
- District supported AB 1594 as it fills in several blanks in CARB's ACF regulations (e.g. the unique needs of water agencies)
- Governor Newsom signed the bill into law on October 8

BACKGROUND DISCUSSION

WATER RIGHTS LEGISLATION

- Planning and Conservation League (PCL) co-sponsored three bills that would essentially restructure California's water rights system
- EID and a Coalition opposed all three bills
- **Senate Bill 389** by Senator Ben Allen (D-Santa Monica)
 - Author amended the bill to address Coalition's concerns
 - District removed opposition
 - Governor Newsom signed into law
- **Assembly Bill 460** by Assemblymember Rebecca Bauer-Kahan (D-Orinda)
 - AB 460 is now a 2-year bill
- **Assembly Bill 1337** by Assemblymember Buffy Wicks (D-Oakland)
 - AB 1337 is now a 2-year bill

BACKGROUND DISCUSSION

LOCAL LEGISLATIVE DELEGATION

- Senator Marie Alvarado-Gil
- Assembly Member Joe Patterson
- Assembly Member Meghan Dahle

BOARD OPTIONS

- No action – Information only

QUESTIONS ?

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider accepting the Cost of Service Analysis and direct staff to issue a Proposition 218 Notice.

PREVIOUS BOARD ACTION

April 27, 2020 – Board adopted the results of the Cost of Service Rate Study Update and Resolution No. 2020-007, adopting the increases and changes to rates reflected in the 2020 Proposition 218 Notice.

November 14, 2022 – Board adopted the 2023-2027 Capital Improvement Plan (CIP), subject to available funding.

December 12, 2022 – Board adopted the 2023-2024 Operating Budget and 2023–2027 Financial Plan, subject to Board-approved Cost of Service Study in 2023.

January 23, 2023 – Board received an overview of the substantive requirements and process of the Cost of Service Analysis.

February 27, 2023 – Board awarded a contract to NBS Government Finance Group (NBS) in the not-to-exceed amount of \$115,750 to conduct a Cost of Service Analysis.

June 12, August 14, and October 10, 2023 – Board participated in a Cost of Service Rate Study workshop.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 3010 Budget

AR 3012 Budget Management and Five-Year Financial Plan

AR 3014 Reserves

BP 11010 Fees and Charges

AR 11010 Adoption of Rates, Fees, and Charges

SUMMARY OF ISSUE

Staff requests that the Board accept the Cost of Service Analysis and approve the issuance of a Proposition 218 Notice. The cost of service analysis proportionately allocates the revenue requirements to the customer classes in compliance with industry standards and State law and proposes a rate structure that will best meet the District’s need to collect rate revenue from each customer class.

BACKGROUND/DISCUSSION

Article XIII D of the California Constitution, otherwise known as Proposition 218, establishes both procedural and substantive requirements to which the District must adhere when considering whether to increase its water, wastewater, and recycled water rates (Cal. Const., art. XIII D, §6). To comply with these requirements, the District is currently conducting a COSA to develop proposed rates that meet but do not exceed, the costs required to provide water, wastewater, and recycled water service.

The first COSA workshop in June 2023 elicited Board and public discussion regarding policy objectives, rate structures, reserve and coverage ratio policies, and priorities when developing proposed updated cost-based and equitable water, wastewater, and recycled water rates. Incorporating feedback from that workshop, staff and our consultant, NBS, developed the draft financial plans presented during the August 14 and October 10 meetings, which identified the need for 12 percent annual revenue increases for drinking and recycled water throughout the next five years and a three percent revenue increase for wastewater. The revenue increases are necessary to meet operating expenses and bond coverage requirements, fund financial reserves, and pay the annual debt service on outstanding bonds.

Direct Assignment Allocation

The District's Cost-of-Service Guiding Principle 9 requires that the District establish agricultural irrigation rates that recognize agriculture's role in the District's formation and development, the quality of water required to serve these customers, and the level of service provided. From the 1850s to the 1970s, agricultural water needs played a major role in the development and acquisition of, and funding for, water rights through Project 184, Weber Dam, Sly Park Reservoir, and other diversions and facilities. Agricultural irrigation customers do not require either the level of high-quality water treatment or the level of service demanded by municipal and industrial customers. Many agricultural customers have been provided treated water as a cost savings to the District in lieu of building dual treated water and raw water pipelines when converting open ditches to pipelines as a water conservation measure. The District should not allocate costs to agricultural customers to provide high water quality and levels of service that were necessitated by its municipal and industrial customers.

Consequently, the Cost-of-Service analysis continues to directly allocate non-potable system costs to agricultural customers through its "Direct Assignment" customer class. As reflected in the Draft Direct Assignment Allocation Appendix, the District used 3.9% of total fixed assets value in the water rate model to determine the final cost allocation for DA customers. This is an increase of about 2% (i.e., doubling the percentage) from the prior cost of service study. The primary driver for the increased percentage is related to assumptions for water efficiency and conservation. In the previous cost of service study, staff reviewed the historical usage of agricultural water from 2001 to 2009, which showed a 32% reduction in agricultural usage during that timeframe. The established committee at the time decided to reduce the drinking water fixed asset assignment by 32% going forward to adjust for similar continued efficiencies. However, in reviewing water usage data for this update, there has been no specific reduction in agricultural usage for the past ten years compared with other customer classes. All customer classes have generally reduced water usage after the recent droughts starting in 2014. Therefore, the 32% reduction was not applied to this update. Other factors for the increased percentage include a general increase in the number and value of District fixed assets included in the calculation, both in the raw water conveyance and drinking water system, since 2012. The cost allocation analysis is attached (Attachment A). Following the October 10, 2023, Cost-of-Service workshop, staff updated the agricultural rate designs as directed by the Board and discussed further below.

Cost of Service and Rate Design Analysis

During the October 10, 2023, Cost-of-Service workshop, the Board reviewed the proposed rate increases for all customers. The Board expressed concern with the significant initial rate increase proposed for agricultural water use resulting from the updated DA allocation from 2% to 3.9%. Some Board members felt it was inconsistent with Principle 9 described above. Consequently, the Board directed staff to explore the use of non-rate revenue or other options to reduce the financial impact on agricultural customers to the same level as single-family residential customers. Non-rate revenue is

used to offset the actual cost of water to all customers. Rather than reallocate non-rate revenue, staff reduced the proposed agricultural rate increases. The net result of this adjustment will reduce the reserve account by approximately \$800,000 per year without reallocating non-rate revenue from other customer classes.

NBS team members will join staff to seek acceptance of the cost of service analysis and Board direction to issue the Proposition 218 Notice and schedule a public hearing during the December 11, 2023, Board meeting to consider implementing the proposed 5-year rate structure. In November, staff will hold public workshops as directed by the Board and present the preliminary cost of service report to the Board during its November 14, 2023, meeting. Staff will present the final report for Board adoption during the public hearing on December 11, 2023.

BOARD OPTIONS

Option 1: Accept the Cost of Service Analysis and issue a Proposition 218 Notice.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

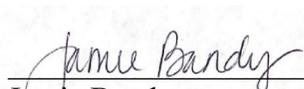
RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: Direct Assignment Allocation

Attachment B: Draft Proposition 218 Notice



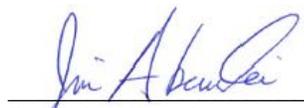
Jamie Bandy
Finance Director



Brian Mueller
Engineering Director



Brian Poulsen
General Counsel



Jim Abercrombie
General Manager

APPENDIX _ – ALLOCATING COSTS TO DIRECT ASSIGNMENT (DA) CUSTOMERS

The District's Cost-of-Service Guiding Principle #9 identifies agricultural irrigation customers as qualifying as a Direct Assignment (DA) designation. The DA customer class consists of a unique set of customers with special characteristics and, because of this, need special consideration in terms of allocating cost associated with the delivery and level of water service.

The District's overall fixed assets include plant and equipment (i.e., infrastructure) such as water treatment facilities, pipes, pumps, and other transmission and distribution facilities used to provide water to District customers. The brief discussion below summarizes and documents the cost allocation process used to determine the percentage of the District's fixed assets allocated to DA customers. These percentages were used in the District's Cost of Service study to determine the DA revenue requirement to be collected through water rates.

Methodology for Allocating Fixed Assets

The District estimated the DA percentage of fixed assets by comparing the net present value (NPV) of the portion of fixed assets that supply service to agriculture irrigation customers to the NPV of all the District's fixed assets. There are three types of fixed assets:

1. Those used entirely for DA customers
2. Those used entirely for non-DA customers
3. Joint-use assets that provide service to both DA and non-DA customers.

Examples of fixed assets used entirely for DA customers primarily include ditch facilities still in service providing raw water.

Facilities used entirely for non-DA customers include assets associated with water treatment plants, covered storage tanks and reservoirs for safe drinking water compliance, infrastructure in El Dorado Hills that does not serve agricultural customers, and other specific infrastructure installed as part of residential or commercial developments.

The District separated joint-use fixed assets into two categories: (1) source water conveyance, which includes all fixed assets for the Project 184 canal system, and; (2) drinking water transmission and distribution system fixed assets. Sly Park Reservoir fixed assets are included in the potable water fixed assets list. The District allocated these joint-use fixed assets to DA and Non-DA customers based on average water deliveries to the DA customer class compared to total water deliveries.

For example, if the NPV of a pipe line which delivers water to both potable and DA customers is \$1,000, and DA uses 5% of the capacity of the asset, then DA would be assigned a \$50 NPV (i.e., 5% times \$1,000).

To estimate the allocations for joint-use assets, the District compared DA consumption to total water deliveries. Using 2018-2022 water consumption, the average water volume delivered to DA customers through the potable water system was 3,101 acre-feet (AF), while the average total potable water delivery was 34,969 AF. Therefore, approximately 9% of total consumptive water diversions was delivered to DA customers (i.e., 3,101 AF divided by 34,969 AF = 9%). For

joint-use assets providing service to both DA and non-DA customers, DA customers were assigned 9% of the NPV of the assets.

TABLE 1	Total Water Delivery (AF)	DA consumption (AF)	Percent of Total Water Delivery
2022	34,808	2,881	8.3%
2021	37,903	3,368	8.9%
2020	36,159	3,309	9.2%
2019	31,906	2,734	8.6%
2018	34,069	3,211	9.4%
Average	34,969	3,101	8.9% (~9%)

To determine the percentage value to assign to the Project 184 conveyance system, the average DA consumption of 3,101 AF was assessed against the total water delivered through the Project 184 conveyance of 82,180 AF (including hydro generation), resulting in a 3.8% DA assignment to Project 184 fixed assets.

TABLE 2	Water Delivery (AF)
Hydro generation/Permit 21112	67,100
Pre-1914 consumptive	15,080
<i>Total Deliveries</i>	<i>82,180</i>
DA consumption	3,101
DA Allocation of Project 184	3.8%

Finally, to determine the percentage of total fixed assets assigned to DA customers for the purpose of estimating their revenue requirements, the total NPV of all DA associated fixed assets (both hydro and potable water) was compared to the total NPV of all fixed assets. Table 3 reflects the results of this analysis.

TABLE 3	Net Present Value	DA % of NPV
DA Fixed Assets - Potable Water	\$10,630,529	
DA Fixed Assets - Project 184	\$5,892,289	
Total Water/Project 184 Fixed Assets	\$428,802,694	3.9%

Therefore, the District used 3.9% of total fixed assets value in the water rate model to determine the final revenue requirement for DA customers.

EID PROPOSITION 218 NOTICE

Proposed Rate Increases 2024–2028

For additional information go to www.eid.org/Prop218

Effect of Rate Adjustments on Average EID Residential Bimonthly (Two Month) Bills

Bimonthly Bill Impacts	2024	%	2025	%	2026	%	2027	%	2028	%	Average
Water (Only)	\$16.81	13.7%	\$16.73	12.0%	\$18.74	12.0%	\$20.98	12.0%	\$23.50	12.0%	12.3%
Wastewater (Only)	\$2.80	2.5%	\$3.40	3.0%	\$3.51	3.0%	\$3.61	3.0%	\$3.72	3.0%	2.9%
Combined Water and Wastewater	\$19.61	8.4%	\$20.13	8.0%	\$22.24	8.1%	\$24.60	8.3%	\$27.22	8.5%	8.3%
Water, Wastewater & Recycled	\$28.11	9.7%	\$20.29	6.4%	\$22.20	6.6%	\$24.31	6.8%	\$26.66	6.9%	7.3%

If adopted, these are the maximum rate increases that could be implemented, effective on January 1 of each year beginning January 2024 through January 2028. During its annual budget planning, the Board of Directors could elect to implement rate increases less than those shown above during this five-year period.

Attention EID Customers or Owners of Affected Property:

We are writing to notify you of proposed new rates for water, wastewater, and recycled water services, as required by Article XIII D, Section 6, of the California Constitution (Proposition 218). The El Dorado Irrigation District (EID/District) Board of Directors will consider these rates during a public hearing as listed on the back of this mailer.

Reasons for the Rate Increases

EID is committed to providing safe, reliable, and high-quality water, wastewater, and recycled water services for our customers. To meet this commitment, the District develops regularly updated long-term financial plans that are designed to ensure there are adequate funds to make the necessary infrastructure investments to maintain safe and reliable service. This is done by striking a balance between funding infrastructure through current cash flow (pay-as-you-go) and the need to borrow funds for more costly projects.

As our water, sewer, and recycled water systems age, it is important to continue investing in replacement and upgrades of these assets in accordance with a long-term, balanced financing plan.

Based on the most recent Board-approved financial plan, it has been determined that rate increases are necessary for EID's water,

wastewater, and recycled water service fees to enable the District to cover current and projected costs of operations and maintenance; fund capital infrastructure improvements vital for providing safe and reliable water and wastewater service; maintain the operational and financial stability of the utilities; and avoid operational deficits and depletion of reserves.

The proposed rates detailed in this notice are designed to bring in the revenue needed to cover operating expenses and meet debt service obligations for vital capital projects.

What are Debt Service Obligations?

Rates help pay for the District's debt service obligations, which we incur when we have to fund millions of dollars' worth of capital improvements to continue to provide high-quality water and wastewater services. Many of the improvements are needed to replace aging and deteriorated infrastructure.

We finance long-lived (50 to 100 years) projects much like homeowners who borrow money to finance their homes and then pay interest and principal on the loans. In 2024, EID plans a water bond issuance of approximately \$60 million and another issuance in 2027 of \$120 million to rebuild or replace vital infrastructure (see below for more details) to provide safe and reliable drinking water. We issue low-interest bonds

to cover our capital costs and pay the principal and interest from revenues. But we are held to stricter financing standards than most home mortgages. EID has a legal obligation to ensure that our net revenues exceed our debt service costs by 25 percent each year.

What's Included in Operating Expenses?

The major components of operating expenses are labor, services/material costs, and regulatory fees.

Labor: A variety of EID employees work every day to provide our customers with the best service possible, 24/7. Here are just a sampling of the highly qualified professionals who keep our customers in service. Operators run the water and wastewater treatment plants and water delivery and wastewater collection systems. Construction and maintenance crews replace and repair pipes and other infrastructure. Engineers design and oversee construction projects. Environmental analysts keep the District in compliance with a multitude of state and federal regulations. Information technology specialists construct and manage sophisticated electronic systems. Office staff answer your billing and service-related questions.

Non-labor expenses include (among others) water charges, regulatory fees, and the costs of chemicals, energy to run all facilities, and fuel for emergency generators.

Needed Infrastructure Reinvestment

WATER TREATMENT PLANT MODERNIZATION: \$93 MILLION

Constructed in the early 1960s, the El Dorado Hills Water Treatment Plant serves the El Dorado Hills Community. The plant treats water from Folsom Reservoir, which amounts to about a third of EID's total water supply. The Reservoir 1 Water Treatment Plant in Pollock Pines is used to serve a significant portion of EID's customer base of more than 125,000. Both plants are in need of significant modernization in order to continue to serve our customers.

Continued, page 2



Needed Infrastructure Reinvestment, continued from page 1

WATER LINE REPLACEMENTS: \$24 MILLION

EID has dedicated funding to ensure the sustainability and reliability of our water supply through a targeted Water Line and Service Line Replacement initiative. Our water supply system is similar to the human body's circulatory system, with water pipes acting as arteries that carry life-sustaining water from treatment plants to our homes and businesses. EID's 220-square-mile service area contains over 1,200 miles of water pipes, many of which are more than 50 years old.

These pipes can and do fail over time, and when that occurs our customers experience an interruption of service. Increases in the cost of materials and other operational expenses have significantly affected the execution of these important initiatives. The rate revenue raised by these proposed adjustments will allow us to continue investing in water line and service line replacement.



WATER STORAGE TANKS REPLACEMENT PROGRAM: \$30 MILLION

EID operates and maintains over 50 storage reservoirs and tanks in the drinking water, wastewater, and recycled water systems. Storage reservoirs and tanks are critical to the reliable operation of a water system and provide backup storage for fire flow, planned and unplanned outages, and other emergencies.

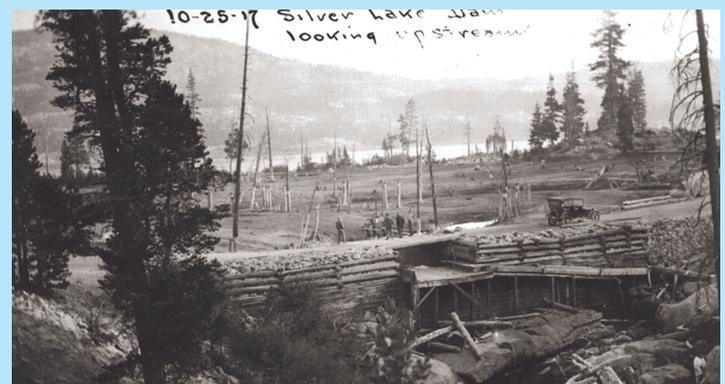
Welded steel tanks like the one shown in the pictures on this page deliver water from our eastern supplies into the El Dorado Hills area. They require regular recoating to prevent deterioration of the steel structure. The District has not been able to stay on pace with required recoating and accelerated efforts are needed to resume the required maintenance schedule. This year staff will be recoating one of the tanks on the ridge east of Bass Lake Road and next year staff are scheduled to recoat the tank within the Bridlewood community. At least one to two tanks per year need recoating to preserve these important investments.

SILVER LAKE DAM REPLACEMENT: \$50 MILLION

Silver Lake is located just off Highway 88 at an elevation of about 7,250 feet in Amador County and is part of EID's federally licensed Project 184 hydroelectric project. The Silver Lake Dam must be replaced to address:

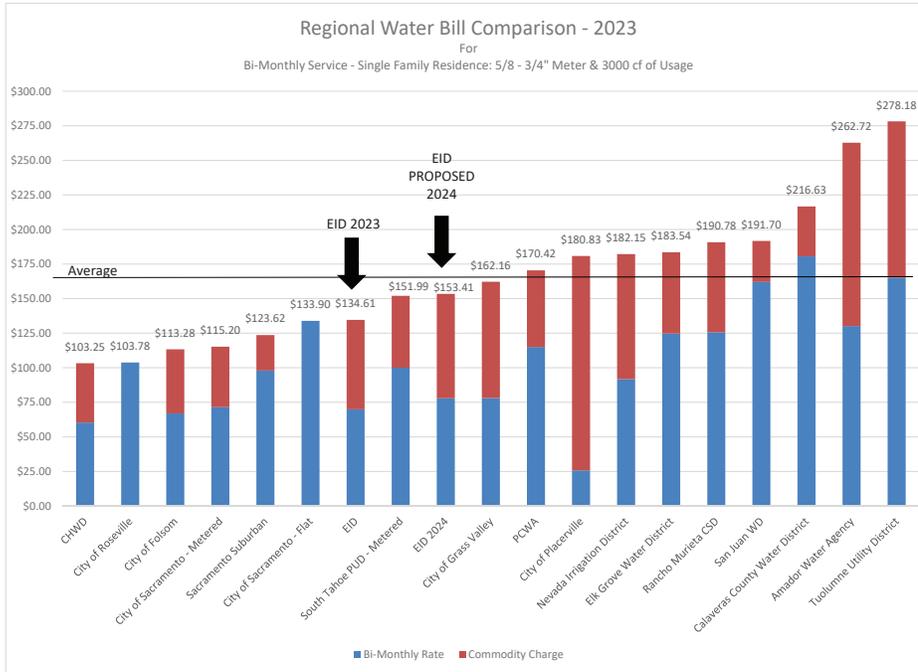
- Deterioration of the dam's aged upstream concrete lining resulting in multiple instances of heavy leakage requiring unscheduled drawdowns.
- Seepage-driven internal erosion, voids, and loss of earth fill integrity at the center of the embankment due to degradation of the 140-year-old timber cribbing. In the spring of 2015, EID staff discovered and repaired a small sinkhole in the dam.
- Insufficient capacity of the spillway to pass the Probable Maximum Flood without overtopping, aggravated by sagging of the embankment crest and parapet wall.
- Aged concrete spillway structure, potentially susceptible to damage during earthquake loading.

Repairing this facility is an important condition for long-term safety as well as maintaining the operation of the reservoir.

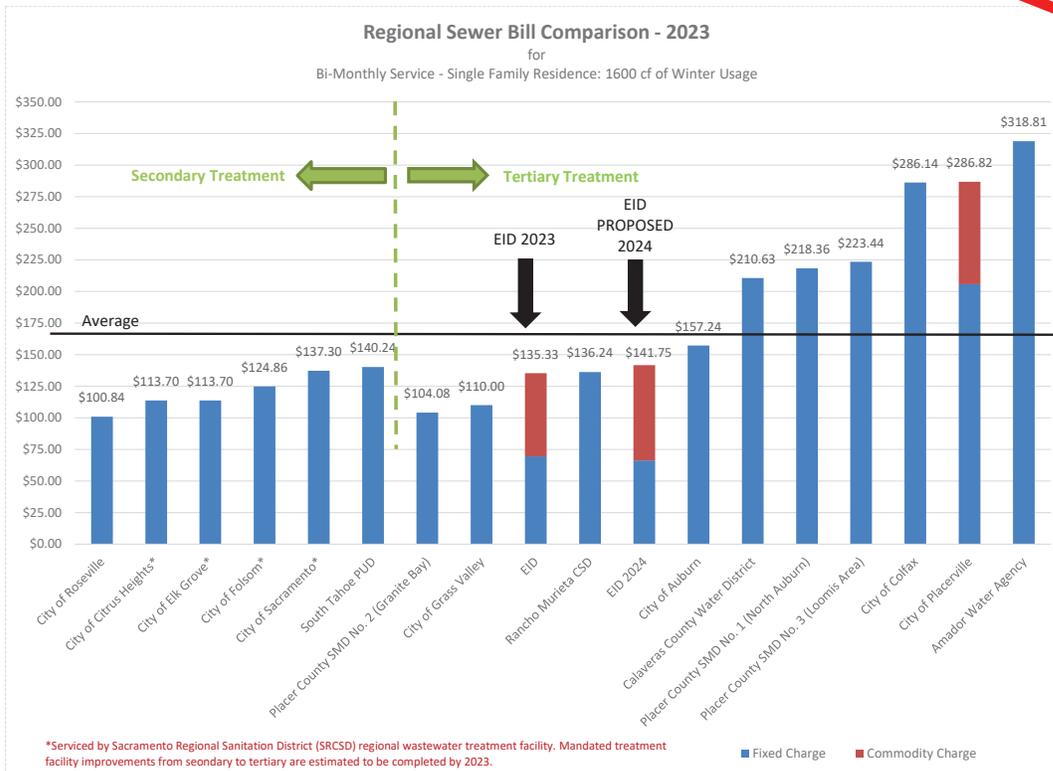


How do EID rates compare with other water and sewer utilities?

The following charts show how EID rates compare with other utilities in the region for typical residential water use and residential wastewater (sewer) services. The calculations in the charts include the base charge plus the commodity charge for the water used. **PLEASE NOTE: All amounts are for bimonthly bills.**



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*Served by Sacramento Regional Sanitation District (SRCSD) regional wastewater treatment facility. Mandated treatment facility improvements from secondary to tertiary are estimated to be completed by 2023.

A Note about Wastewater Treatment

Why are sewer bills sometimes perceived as high? Simply put, the collection, treatment, and safe management of wastewater is an essential but complex biological process that is expensive.

Modern technology ensures that contaminants in treated wastewater are detected at levels as minute as parts per billion (equivalent to half a teaspoon in an

Olympic-sized pool). As a result, standards for wastewater discharge keep becoming stricter, leading to pricey upgrades at treatment facilities.

In regions like the Sierra foothills, the expenses might feel steeper. While cities such as Sacramento and San Francisco can release into large rivers or oceans and benefit from dilution credits, reducing

their regulatory expenses, the foothills don't have this advantage.

EID has adhered to high "tertiary" treatment standards for more than 25 years. Additionally, in places like El Dorado County, fewer residents share these costs, making individual bills higher.

BASE CHARGES

Base Charges	Current Rates	Proposed Rates				
		2024	2025	2026	2027	2028
Water - Bi-Monthly Base Charges						
Single Family Residential						
5/8" and 3/4" meters (Includes Ag. Irrig. w/ Resid. & Small Farms)	\$69.93	\$77.88	\$87.23	\$97.69	\$109.42	\$122.55
1" Residential with Private Fire Service	\$69.93	\$77.88	\$87.23	\$97.69	\$109.42	\$122.55
1"	\$103.82	\$116.74	\$130.74	\$146.43	\$164.00	\$183.68
1 1/2"	\$181.32	\$205.54	\$230.21	\$257.83	\$288.77	\$323.43
1 1/2"T	\$215.23	\$244.40	\$273.73	\$306.57	\$343.36	\$384.57
2"	\$278.20	\$316.56	\$354.54	\$397.09	\$444.74	\$498.11
2"T	\$278.20	\$316.56	\$354.54	\$397.09	\$444.74	\$498.11
3"	\$561.63	\$616.29	\$690.24	\$773.07	\$865.84	\$969.74
3"T	\$588.15	\$671.79	\$752.41	\$842.70	\$943.82	\$1,057.08
4"	\$798.63	\$949.32	\$1,063.24	\$1,190.83	\$1,333.73	\$1,493.77
Single Family Dual Plumbed Residential ¹	\$52.66	\$46.72	\$52.32	\$58.60	\$65.64	\$73.51
Multi-Family, Commercial/Landscape & Rec Turf						
5/8" and 3/4" meters	\$75.25	\$81.15	\$90.89	\$101.80	\$114.01	\$127.70
1"	\$112.88	\$122.30	\$136.97	\$153.41	\$171.82	\$192.44
1 1/2"	\$198.89	\$216.34	\$242.30	\$271.38	\$303.95	\$340.42
1 1/2"T	\$236.53	\$257.49	\$288.39	\$322.99	\$361.75	\$405.16
2"	\$306.40	\$333.90	\$373.97	\$418.84	\$469.10	\$525.40
2"T	\$306.40	\$333.90	\$373.97	\$418.84	\$469.10	\$525.40
3"	\$596.68	\$651.30	\$729.46	\$816.99	\$915.03	\$1,024.83
3"T	\$650.43	\$710.08	\$795.29	\$890.72	\$997.61	\$1,117.32
4"	\$919.21	\$1,003.97	\$1,124.44	\$1,259.38	\$1,410.50	\$1,579.76
4"T	\$1,150.37	\$1,256.71	\$1,407.52	\$1,576.42	\$1,765.59	\$1,977.46
6"	\$1,811.55	\$1,979.68	\$2,217.24	\$2,483.31	\$2,781.31	\$3,115.07
6"T	\$2,531.90	\$2,767.30	\$3,099.38	\$3,471.31	\$3,887.86	\$4,354.41
8"	\$4,321.95	\$4,724.61	\$5,291.56	\$5,926.55	\$6,637.74	\$7,434.27
10"	\$6,844.89	\$7,469.54	\$8,365.88	\$9,369.79	\$10,494.16	\$11,753.46
12"	\$8,562.02	\$9,820.66	\$10,999.14	\$12,319.03	\$13,797.32	\$15,452.99
Agricultural Irrigation (with residence) and Small Farms						
5/8" and 3/4" meters ²	\$69.93	\$77.88	\$87.23	\$97.69	\$109.42	\$122.55
1"	\$77.13	\$104.59	\$117.14	\$131.20	\$146.94	\$164.57
1 1/2"	\$97.47	\$129.73	\$145.29	\$162.73	\$182.26	\$204.13
1 1/2"T	\$106.37	\$140.73	\$157.61	\$176.53	\$197.71	\$221.43
2"	\$122.90	\$161.15	\$180.49	\$202.15	\$226.40	\$253.57
2"T	\$122.90	\$161.15	\$180.49	\$202.15	\$226.40	\$253.57
3"	\$177.63	\$245.99	\$275.51	\$308.57	\$345.60	\$387.07
3"T	\$204.27	\$261.70	\$293.10	\$328.28	\$367.67	\$411.79
4"	\$267.86	\$340.25	\$381.09	\$426.82	\$478.03	\$535.40
4"T	\$322.53	\$407.81	\$456.75	\$511.56	\$572.95	\$641.70
6"	\$404.21	\$601.06	\$673.18	\$753.97	\$844.44	\$945.77
6"T	\$649.30	\$811.58	\$908.97	\$1,018.05	\$1,140.22	\$1,277.04
8"	\$1,072.70	\$1,334.76	\$1,494.93	\$1,674.32	\$1,875.24	\$2,100.27
10"	\$1,698.90	\$2,068.46	\$2,316.68	\$2,594.68	\$2,906.04	\$3,254.77
12"	\$2,175.08	\$2,696.90	\$3,020.53	\$3,382.99	\$3,788.95	\$4,243.63
Agricultural Irrigation (without residence) and Raw Metered						
5/8" and 3/4" meters	\$19.02	\$21.30	\$23.86	\$26.72	\$29.93	\$33.52
1"	\$25.67	\$32.30	\$36.18	\$40.52	\$45.38	\$50.82
1 1/2"	\$48.28	\$57.44	\$64.33	\$72.05	\$80.70	\$90.38
1 1/2"T	\$57.16	\$68.43	\$76.65	\$85.84	\$96.15	\$107.68
2"	\$73.69	\$88.86	\$99.52	\$111.47	\$124.84	\$139.82
2"T	\$73.69	\$88.86	\$99.52	\$111.47	\$124.84	\$139.82
3"	\$111.65	\$173.70	\$194.54	\$217.89	\$244.03	\$273.32
3"T	\$155.07	\$189.41	\$212.14	\$237.60	\$266.11	\$298.04
4"	\$218.65	\$267.96	\$300.12	\$336.13	\$376.47	\$421.65
4"T	\$273.34	\$335.52	\$375.78	\$420.88	\$471.38	\$527.95
6"	\$429.71	\$528.77	\$592.22	\$663.28	\$742.88	\$832.02
6"T	\$600.10	\$739.29	\$828.01	\$927.37	\$1,038.65	\$1,163.29
8"	\$1,023.50	\$1,262.47	\$1,413.97	\$1,583.64	\$1,773.68	\$1,986.52
10"	\$1,620.96	\$1,996.17	\$2,235.71	\$2,504.00	\$2,804.48	\$3,141.02
12"	\$2,125.87	\$2,624.61	\$2,939.57	\$3,292.31	\$3,687.39	\$4,129.88
Raw Water Rates						
Raw Water Irrigation³						
Raw Water Year Round - 1/2" Flow	\$143.96	\$163.83	\$183.49	\$205.51	\$230.17	\$257.79
Raw Water Year Round - 1" Flow	\$287.91	\$327.67	\$366.99	\$411.03	\$460.35	\$515.59
Raw Water Year Round - 2" Flow	\$575.82	\$655.50	\$734.16	\$822.26	\$920.93	\$1,031.44
Raw Water Year Round - 4" Flow	\$1,151.64	\$1,311.00	\$1,468.32	\$1,644.52	\$1,841.86	\$2,062.88
Raw Water Year Round - >4" Flow (per inch of flow)	\$287.91	\$327.67	\$366.99	\$411.03	\$460.35	\$515.59

LEGEND (applies to all charts)

- 1 cubic foot (cf) = 7.48 gallons
- 1 miners inch = 11.22 gallons per minute (gpm)
- 1 miners inch day = 16,156.80 gallons or 2,160 cubic feet
- Services outside of the District are billed at 1.5 times the adopted rate
- T = turbine meter

ALL SERVICES ARE BILLED BIMONTHLY EXCEPT AS NOTED

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1. This is the Single Family base charge less dual-plumbed recycled water bimonthly base charge \$29.23.
2. This is the same as SFR base charge and includes customer costs; larger meters include both SFR base charge and the additional capacity costs exceed 3/4" meter capacity costs.
3. Assumes a flat rate for unmetered consumption. If metered, the Ag Irrigation/Raw metered commodity rates are used. For raw water base charges see Ag Irrigation with Residence & Small Farm.



This Proposition 218 rate change notice includes extensive tables showing the proposed rate changes for 2024, 2025, 2026, 2027, and 2028. In an effort to help residential customers estimate how the proposed rates would affect their bimonthly water, wastewater, and recycled water bill (for dual-plumbed homes), EID has placed rate calculators on the District's website at www.eid.org/Prop218. You can also scan the QR code at right on your smart phone or tablet camera to go directly to the Proposition 218 web page.



BASE CHARGES

Base Charges	Current Rates	Proposed Rates				
		2024	2025	2026	2027	2028
Wastewater Base Charges (Bi-Monthly)						
Residential Flat Rate District Average ¹	\$135.32	\$141.75	\$146.00	\$150.38	\$154.89	\$159.54
Single Family Residential	\$69.58	\$66.34	\$68.33	\$70.38	\$72.49	\$74.66
Multi-Family Residential (flat rate per unit)	\$31.31	\$39.11	\$40.28	\$41.49	\$42.73	\$44.02
Commercial (all categories)	\$70.46	\$138.27	\$142.42	\$146.69	\$151.09	\$155.63
Commercial without water service (flat rate per unit) ²	\$127.13	\$198.33	\$204.27	\$210.40	\$216.72	\$223.22
Schools, per student and staff (billed annually)	\$13.09	\$19.04	\$19.61	\$20.19	\$20.80	\$21.42
Alternative Commercial Fixed Charges						
Commercial - Low	-	\$65.84	\$67.81	\$69.85	\$71.94	\$74.10
Commercial - Medium	-	\$136.26	\$140.35	\$144.56	\$148.90	\$153.37
Commercial - Medium/High	-	\$216.79	\$223.30	\$229.99	\$236.89	\$244.00
Commercial without water service (flat rate per unit) ³	-	\$314.51	\$323.95	\$333.67	\$343.68	\$353.99
Recycled Water Base Charges (Bi-Monthly)						
Single Family Dual Plumbed Residential ¹	\$17.37	\$31.16	\$32.10	\$33.06	\$34.05	\$35.07
Commercial Landscape/Recreational Turf						
5/8" and 3/4" meters	\$38.70	\$42.18	\$43.45	\$44.75	\$46.09	\$47.47
1"	\$56.74	\$63.71	\$65.62	\$67.59	\$69.61	\$71.70
1 1/2"	\$98.02	\$112.91	\$116.29	\$119.78	\$123.38	\$127.08
1 1/2"T	\$116.07	\$134.43	\$138.47	\$142.62	\$146.90	\$151.30
2"	\$149.61	\$174.41	\$179.64	\$185.03	\$190.58	\$196.30
2"T	\$149.61	\$174.41	\$179.64	\$185.03	\$190.58	\$196.30
3"	\$288.91	\$340.46	\$350.67	\$361.19	\$372.03	\$383.19
3"T	\$314.70	\$371.21	\$382.35	\$393.82	\$405.63	\$417.80
4"	\$443.68	\$524.96	\$540.71	\$556.93	\$573.64	\$590.85
4"T	\$554.59	\$657.19	\$676.91	\$697.21	\$718.13	\$739.67
6"	\$871.88	\$1,035.42	\$1,066.48	\$1,098.48	\$1,131.43	\$1,165.38
6"T	\$1,217.55	\$1,447.48	\$1,490.90	\$1,535.63	\$1,581.70	\$1,629.15
8"T	\$2,076.52	\$2,471.47	\$2,545.61	\$2,621.98	\$2,700.64	\$2,781.66
10"T	\$3,288.72	\$3,907.52	\$4,024.75	\$4,145.49	\$4,269.85	\$4,397.95
12"T	\$4,177.99	\$5,137.54	\$5,291.67	\$5,450.42	\$5,613.93	\$5,782.35

1. This rate includes the single-family bimonthly fixed charge plus an assumed consumption of 1,600 cf charged at the single-family commodity rate.
2. The proposed 2024 rate includes the commercial low bimonthly fixed charge plus an assumed average flow of 1,600 cf times the commercial low commodity rate.
3. Includes the adjusted commercial low bimonthly fixed charge plus the average flow for commercial low customers of 37,800 cf times the adjusted commercial low commodity rate.

COMMODITY CHARGES

Commodity Charges	Current Rates	Proposed Rates				
		2024	2025	2026	2027	2028
Water						
Single Family Residential						
0 - 1,800 cf	\$0.019912	\$0.023293	\$0.026089	\$0.029219	\$0.032726	\$0.036653
1801 - 4,500 cf	\$0.024033	\$0.027998	\$0.031358	\$0.035121	\$0.039336	\$0.044056
Above 4,500 cf	\$0.028194	\$0.034553	\$0.038699	\$0.043343	\$0.048544	\$0.054369
Multi-Family, Commercial/Landscape, Rec Turf						
All usage	\$0.023294	\$0.027526	\$0.030830	\$0.034529	\$0.038673	\$0.043313
Agricultural Irrigation (with residence) and Small Farms						
0 - 4,500 cf (Single Family Rates)	(See Single-Family Rates)					
Above 4,500 cf	\$0.002222	\$0.002529	\$0.002832	\$0.003172	\$0.003553	\$0.003979
Agricultural Irrigation (without residence) and Raw Metered						
All usage	\$0.002222	\$0.002529	\$0.002832	\$0.003172	\$0.003553	\$0.003979
Raw Water Rates						
Metered Landscape Irrigation/ Seasonal Continuous Flow						
All usage	\$0.002222	\$0.002529	\$0.002832	\$0.003172	\$0.003553	\$0.003979

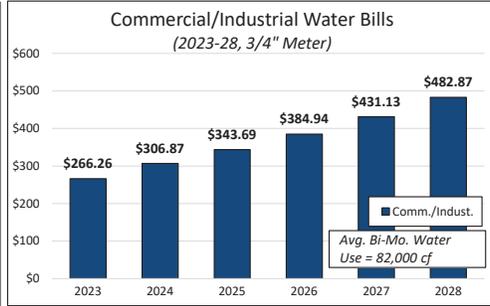
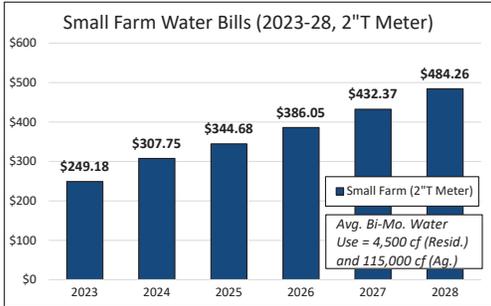
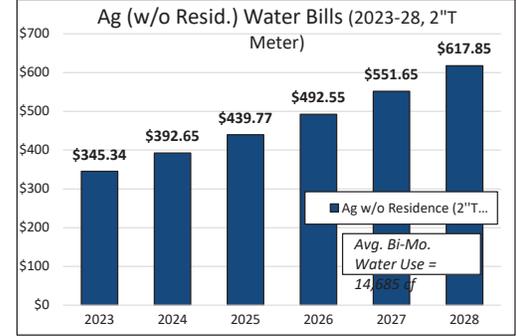
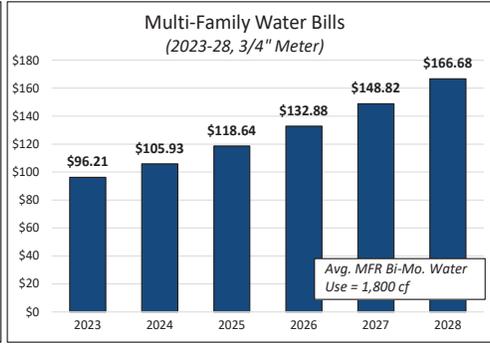
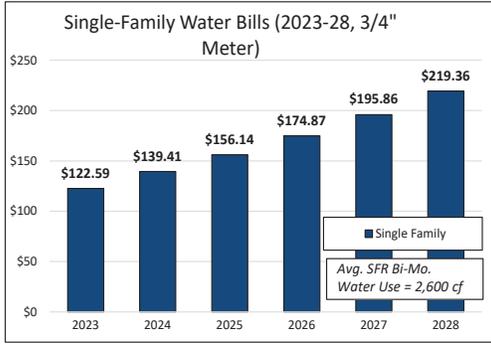
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Base Charges
Base charges, or fixed charges, help pay for the costs associated with operating and maintaining EID's water treatment and delivery, wastewater, and recycled water systems. These charges are determined by meter size, not by the amount of water delivered.

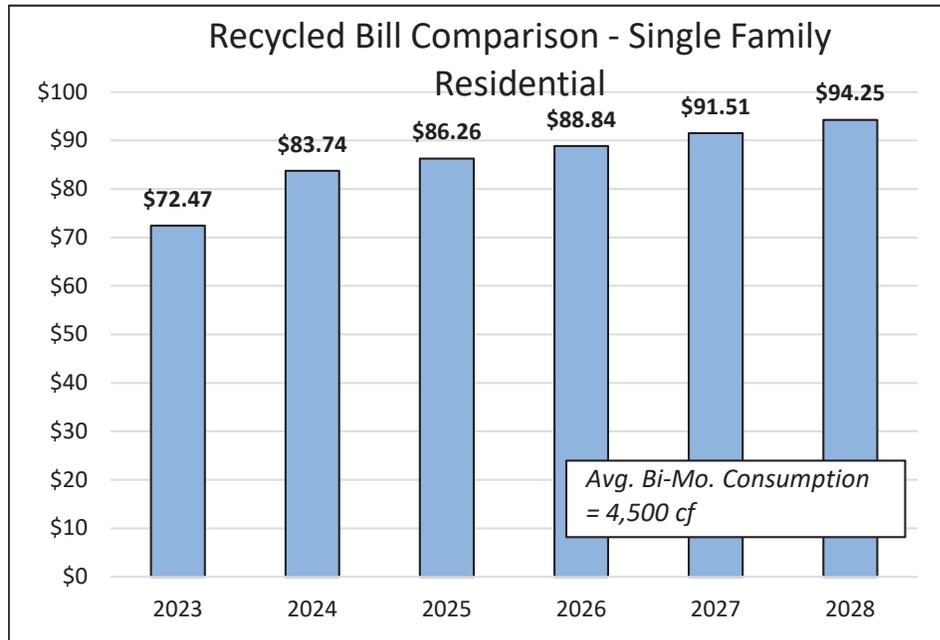
Commodity Charges
Commodity charges cover costs that vary based upon the amount of water delivered. These rates reflect a tiered rate structure based on bimonthly usage. Charges shown are per cubic foot (cf), or 7.48 gallons.

Commodity Charges	Current Rates	Proposed Rates				
		2024	2025	2026	2027	2028
Wastewater Commodity Rates (\$/CF)						
Single Family Residential - All Usage	\$0.041091	\$0.047133	\$0.048547	\$0.050003	\$0.051503	\$0.053048
Multi-Family Residential - All usage	\$0.032315	\$0.047133	\$0.048547	\$0.050003	\$0.051503	\$0.053048
Commercial/Industrial						
Commercial - Low	\$0.049278	\$0.084277	\$0.086805	\$0.089409	\$0.092092	\$0.094854
Commercial - Medium/Low	\$0.072570	\$0.087958	\$0.090597	\$0.093314	\$0.096114	\$0.098997
Commercial - Medium	\$0.106231	\$0.181471	\$0.186915	\$0.192522	\$0.198298	\$0.204247
Commercial - Medium/High	\$0.167191	\$0.177770	\$0.183104	\$0.188597	\$0.194255	\$0.200082
Commercial - High	\$0.364214	\$0.352735	\$0.363317	\$0.374217	\$0.385443	\$0.397006
Alternative Commercial Commodity Rates						
Commercial - Low	N.A.	\$0.065795	\$0.067769	\$0.069802	\$0.071897	\$0.074053
Commercial - Medium	N.A.	\$0.085355	\$0.087916	\$0.090553	\$0.093270	\$0.096068
Commercial - Medium/High	N.A.	\$0.168254	\$0.173301	\$0.178500	\$0.183855	\$0.189371
Recycled Water Commodity Rates (\$/CF)						
Dual Plumbed Residential						
0 - 3,000 cf (50% of Potable Tier 1)	\$0.009956					
3,001 - 4,500 cf (70% of Potable Tier 2)	\$0.016820					
Above 4,500 cf (90% of Potable Tier 3)	\$0.025375					
<i>Replaced by Uniform Volumetric Rate</i>						
Commercial Landscape						
All Usage	\$0.007826					
Recreational Turf						
All Usage	\$0.008346					
Recycled Uniform Rate	N.A.	\$0.011684	\$0.012035	\$0.012396	\$0.012768	\$0.013151

Average Effect on Single Family, Multi-Family, Small Farm, Commercial/Industrial, and Ag without Residence Water Bills

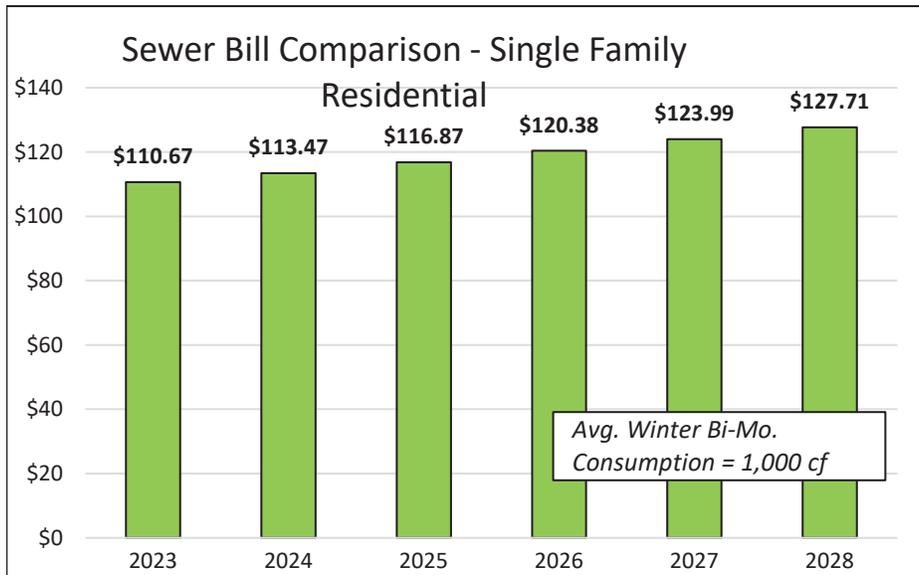


Average Effect on Dual-Plumbed Single Family Residential Recycled Water Bills

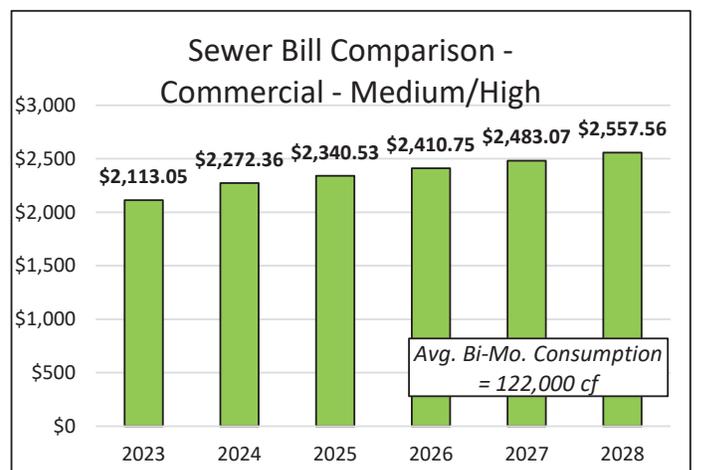
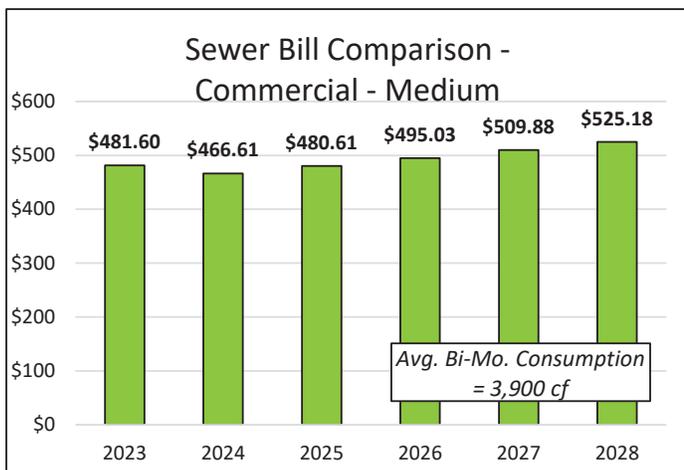
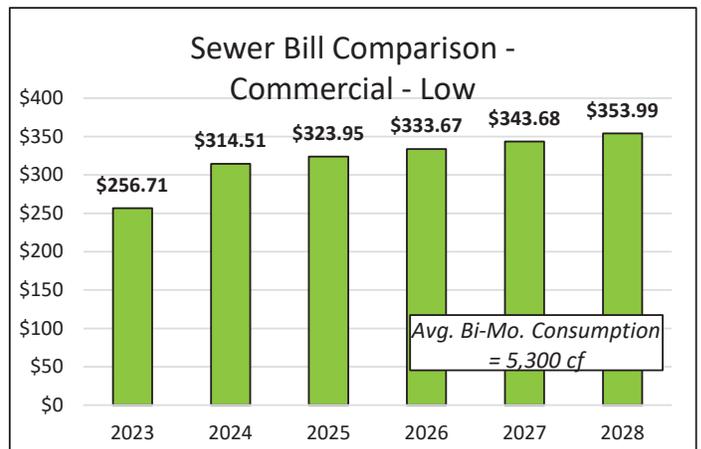
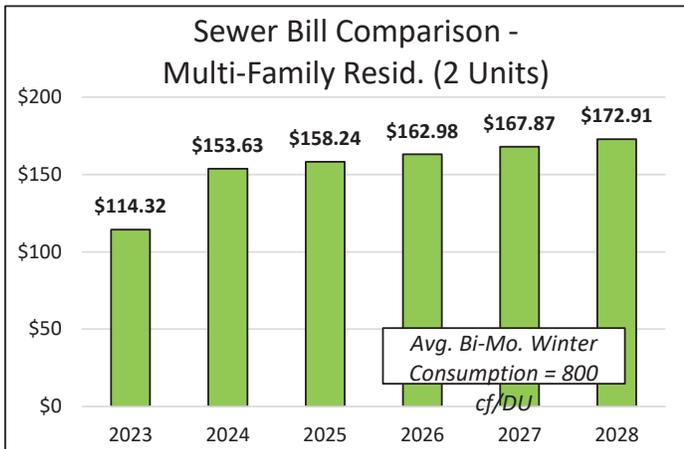


Average Effect on Single Family Residential Sewer Bills

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Average Effect on Multi-Family Residential and Commercial Low, Medium, and Medium/High Sewer Bills





El Dorado Irrigation District
2890 Mosquito Road
Placerville, CA 95667

ATTENTION
This notice contains
important information about
proposed rate increases
for water, wastewater, and
recycled water services.
Please Read

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Notice of Open Houses, Public Workshops, and Public Hearing

On November 13, 2023, and November 16, 2023, EID will hold two open houses/public workshops to describe needed infrastructure projects, their funding requirements, and listen to customer feedback on the proposed rate adjustments.

Each event will begin at 5:30 P.M.

- **Monday, November 13, 2023**
Cameron Park Community Services Dist.
2502 Country Club Drive
Cameron Park, CA 95682
- **Thursday, November 16, 2023**
El Dorado Irrigation District HQ
2890 Mosquito Road
Placerville, CA 95667

On December 11, 2023, at 9:00 A.M. at EID headquarters, the Board will hold a public hearing to consider adopting the rates.

How to protest the proposed new rates

Under Proposition 218, the owner of record for a parcel(s) that is subject to the proposed rate increases can submit a written protest against the proposed rate increases received by the District at or before the time set for the public hearing on December 11, 2023, at 9:00 A.M.

If a majority of affected property owners submit written protests, the proposed rate increases will not go into effect and the reconstruction work on the infrastructure will be impacted.

The written protest must identify the parcel(s) in which the party signing the protest has an interest. The best means of identifying the parcel(s) is by the Assessor's Parcel Number (APN). If the party signing the protest is not shown on the last equalized assessment roll of El Dorado County as the owner of the parcel(s), the protest must contain or be accompanied by written evidence that such party is the owner of the parcel(s), unless the protest is by a tenant who pays the utility bills.

In rental situations where the tenant pays the utility bills, the property owner is responsible for supplying the tenant with this notice. Tenants who pay the utility bills can submit a written protest. One written protest per parcel will be counted.

Please mail or hand-deliver written protests (specifying which rate increases are being protested) to: Clerk to the Board, El Dorado Irrigation District, 2890 Mosquito Road, Placerville, CA 95667.

Emailed, faxed, or electronic protests will not be accepted.



Summary of

Water and Sewer Revenue Study

Overview of Cost of Service Analysis
and Draft Rate Design Results

October 23, 2023

Previous Board Action

- April 27, 2020 – Board adopted the results of the 2020 Cost of Services Analysis and approved rate increases as set forth in the 2020 Proposition 218 Notice.
- November 14, 2022 – Board adopted the 2023-2027 Capital Improvement Plan (CIP), subject to available funding.
- December 12, 2022 – Board adopted the 2023-2024 Operating Budget and 2023-2027 Financial Plan, subject to Board approved Cost of Service Study in 2023.
- January 23, 2023 – Board received an overview of the substantive requirements and process of the Cost of Service Analysis.
- February 27, 2023 – Board awarded a contract to NBS Government Finance Group in the not-to-exceed amount of \$115,750 to conduct a Cost of Service Analysis.
- June 12, August 14, and October 10, 2023 – Board participated in Cost of Service Rate Study workshop.

Summary of Issue

- Following the October 10, 2023 Cost of Service workshop, staff updated the agricultural rate designs as directed by the Board. Staff requests that the Board accept the Cost of Service Analysis and approve issuance of a Proposition 218 Notice.

Background Discussion

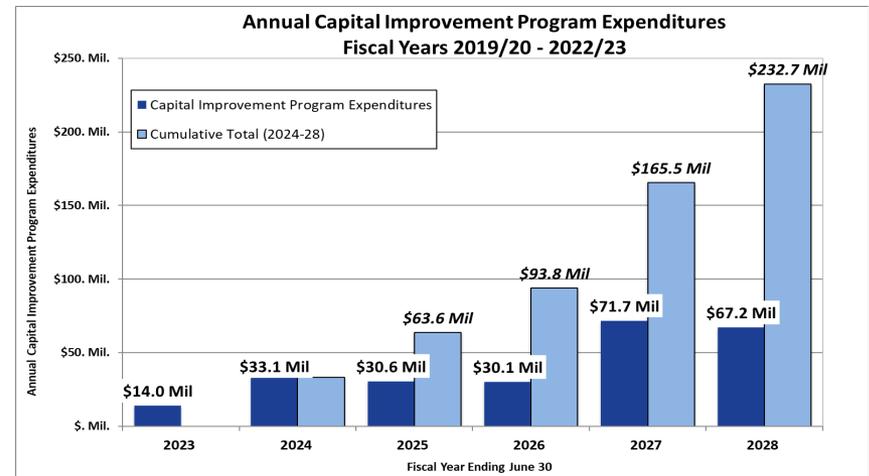
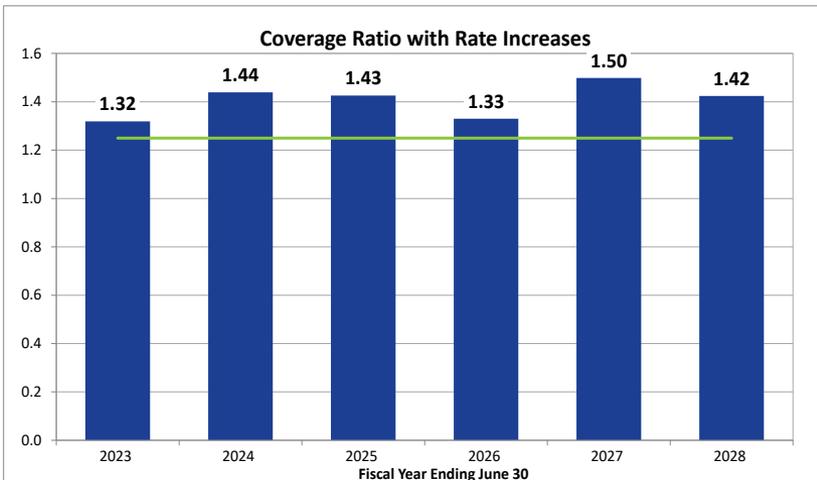
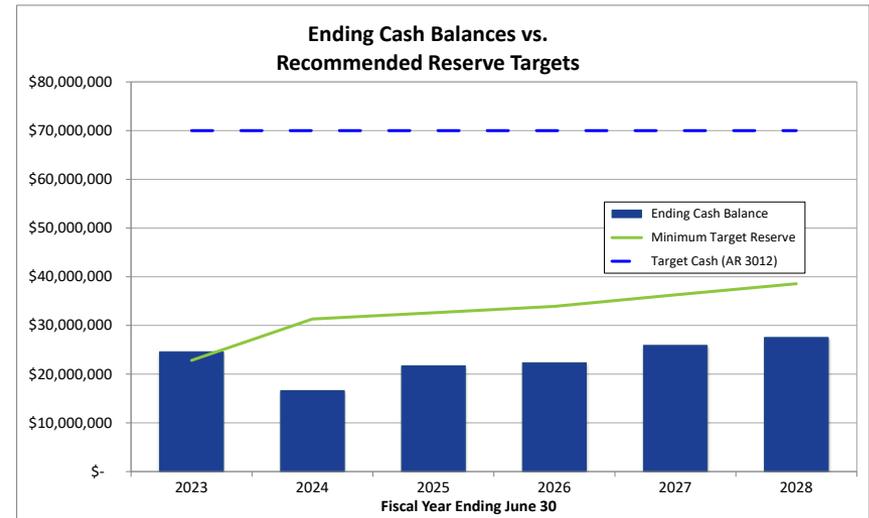
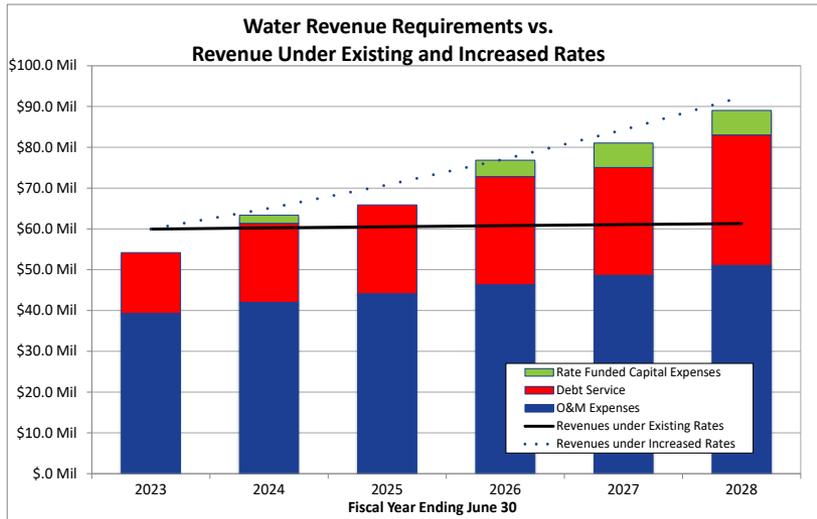
- The cost of service analysis proportionately allocates the revenue requirements to the customer classes in compliance with industry standards and State law, whereas the rate design analysis considers what rate structure will best meet the District's need to collect rate revenue from each customer class.
- October 10 Cost of Service workshop - Board reviewed proposed rate increases for all customers.
- Board concerns with significant rate increase proposed for agricultural water use, not consistent with some of the Board adopted Principles.
- Board directed staff to use non-rate revenue to reduce the financial impact to the same level as single family residential.
- Reduced proposed agricultural irrigation rates, net result of this Board direction is to reduce the reserve account by approximately \$800,000 per year without reallocation of non-rate revenue to other customers.

Rate Study Terms

- **Variable (or Commodity) Costs** – Costs that tend to change with the amount of water used or sewer effluent generated.
- **Fixed (or Capacity) Costs** – Costs that generally do not change with the amount of water used or sewer effluent generated.
- **cf** – cubic feet (= 7.48 gallons). The unit EID uses to charge for water and sewer rates.
- **ccf** – 100 cubic feet (= 748 gallons). The measurement for annual water consumption.
- **Financial Plan** – Compares projected revenues with project expenses and determines the Net Revenue Requirements and % Annual Rate Increases needed.
- **Capital Projects (or CIP)** – Large infrastructure projects (pipelines, tanks, pumps, etc.)
- **Rate Revenue** – The amount of money EID receives from water and sewer rates.
- **Water Rate/Volumetric rate** – The amount charged per cf of water use.
- **Rate Structure** – How rates and charges are collected from various customer classes.
- **Cost of Service** – The cost to provide water/sewer service to each customer class based on the demands they place on the utility.
- **Customer Class** – How customers are grouped based on similar user characteristics (e.g., Single Family, Multifamily, Commercial/Industrial, Small Farms, and Irrigation, etc.)
- **Meter size** – Meters measure water usage at the property; the size is determined by its aperture and capacity to provide water flow. Most EID customers have 3/4" meters.
- **Fixed charge** – The bi-monthly base charged by meter size; does not vary by water use.
- **Uniform rate structure** – Charges the same amount per unit of water used, regardless of how much water is used.
- **Tiered rate structure** – Charges more unit of water as consumption increases; reflects higher costs allocated to customers with the greatest demands on the system.

Water Utility

Overview – Financial Plan



Cost of Service Analysis (COSA) and Rate Design

Overview - COSA

Water Costs Are Allocated to Customers based on:

1. Commodity Costs (based on annual consumption) **(Variable)**
2. System Capacity Costs (based on system peaking factors) **(Fixed)**
3. Customer Costs (based on number of accounts) **(Fixed)**

COSA – Water (Potable System)

Allocation %'s for Consumption, Peak Demand, and Accounts/Meters

Summary of Cost Allocation Factors				
Customer Class ¹		<i>Commodity</i>	<i>Capacity</i>	<i>Customer</i>
		% of System Water Use	% of Peak Demand	% of Accounts/Meters
Single Family Residential		75.8%	61.7%	92.2%
Ag. Irrigation - w/ residence		7.7%	4.9%	2.4%
Small Farm		9.5%	6.1%	3.5%
Multi Family Residential		0.5%	15.8%	0.4%
Comm. & Ind. (& potable landscape irrig		5.4%	5.5%	0.5%
Recreational Turf		1.2%	5.9%	1.0%
Potable Water System		100.0%	100.0%	100.0%

COSA – Water (Potable System)

Net Revenue Requirements by Customer Class

Classification Components	Adjusted Net Rev. Reqts. <i>(Includes Ag w/ Resid., SF/DI Accts.)</i>	Customer Classes					
		Single Family Residential	Multi Family Residential	Comm. & Ind. (& potable landscape irrig.)	Agricultural Irrigation - w/ residence	Recreational Turf	Small Farm
Commodity (COM)	\$ 21,547,396	\$ 16,327,574	\$ 1,652,171	\$ 2,044,443	\$ 99,888	\$ 1,169,439	\$ 253,882
Capacity (CAP)	\$ 15,054,936	\$ 9,295,182	\$ 740,219	\$ 920,767	\$ 2,375,577	\$ 827,719	\$ 895,473
Customer Related (CA)	\$ 5,741,047	\$ 5,291,972	\$ 138,817	\$ 201,916	\$ 22,554	\$ 28,462	\$ 57,326
Public Fire Protection (FP)	\$ 1,127,132	\$ 985,369	\$ 51,696	\$ 75,194	\$ 4,200	\$ -	\$ 10,674
Net Revenue Requirement	\$ 43,470,512	\$ 31,900,096	\$ 2,582,903	\$ 3,242,320	\$ 2,502,219	\$ 2,025,619	\$ 1,217,355
<i>% of Total Potable Rev. Requirements:</i>		<i>73.4%</i>	<i>5.9%</i>	<i>7.5%</i>	<i>5.8%</i>	<i>4.7%</i>	<i>2.8%</i>

Fixed Charges

- Include Capacity, Customer, and Fire Protection costs
- Capacity costs increase by meter size
- Customer costs are the same for all meters

Rate Design Analysis - Water

Calculation of Single Family Tiered Volumetric Rates

SFR Tiers		Total SFR COM Costs by Tier	CCF/Year by Tier		SFR Tier Rates	
			CCF Option 1	%	\$/CCF	\$/cf
Tier 1	(0 - 1,800 cf)	\$ 6,457,977	2,772,453 ccf	46.7%	\$2.329	\$0.02329
Tier 2	(> 1,800 cf < 4,501 cf)	\$ 4,470,747	1,596,793 ccf	26.9%	\$2.800	\$0.02800
Tier 3	(> 4,500 cf)	\$ 5,398,312	1,562,349 ccf	26.3%	\$3.455	\$0.03455
Total		\$ 16,327,036	5,931,596 ccf	100.0%		

Key Factors in Calculating Tiered Rates:

- **Costs are SFR Volumetric Cost Allocations (\$16.3 M)**
- **Tier costs are based on differences in the costs of water** (*primarily water purchases and power costs*)
- **Tier consumption levels are from EID system's metered records and reflect highest costs** (*Tier 3/summer*), **moderate costs** (*Tier 2/fall/spring*) and **lowest costs** (*Tier 1/winter*)

Rate Design Analysis - Water

Calculation of Ag/Raw Water Volumetric Rates

Customer Class/Tier		Water Consumption (ccf/yr.) ¹	Commodity Rates ²		Total Rate Revenue
			(\$/ccf)	(\$/cf)	
Ag. Irrig./Small Farms - Irrig./Raw Water (DA)					
<i>Ag. Irrig. - (w/ & w/o residence) & Small Farms</i>	<i>Uniform Rate</i>	1,628,438	\$0.5404	\$0.005404	\$879,959
Adjustments (Board Direction)³					
<i>Use of Operating Reserve for Adjustment</i>					\$468,152
<i>Ag. Irrig. - (w/ & w/o residence) & Small Farms</i>	<i>Uniform Rate</i>	1,628,438	\$0.2529	\$0.002529	\$411,807

1. Assumes potable system use is 4,500 cf/mo. for the residential portion of consumption. The remaining consumption is assumed to be ag/raw water system.
2. These are Agricultural rates based only on direct assignment costs and only charged after 4,500 cf/mo. consumption.
3. Board directed to adjust the Ag/Raw/Small Farms rate to be consistent with single-family-potable rate increases. This involves the use of additional reserve funds, which is now reflected in the Financial Plan.

Key Factors in Calculating Ag/Raw Water Rates:

- Up to 4,500 cf is assumed to be residential
- Over 4,500 cf is assumed to be Ag/Raw Water

Proposed Rates - Water Base Charges

Base Charges for Single Family Residential Customers*

Base Charges	Current Rates	Proposed Rates				
		2024	2025	2026	2027	2028
Water - Bi-Monthly Base Charges						
Single Family Residential						
5/8" and 3/4" meters <i>(Includes Ag. Irrig. w/ Resid. & Small Farms)</i>	\$69.93	\$77.88	\$87.23	\$97.69	\$109.42	\$122.55
1" Residential with Private Fire Service	\$69.93	\$77.88	\$87.23	\$97.69	\$109.42	\$122.55
1"	\$103.82	\$116.74	\$130.74	\$146.43	\$164.00	\$183.68
1 1/2"	\$181.32	\$205.54	\$230.21	\$257.83	\$288.77	\$323.43
1 1/2"T	\$215.23	\$244.40	\$273.73	\$306.57	\$343.36	\$384.57
2"	\$278.20	\$316.56	\$354.54	\$397.09	\$444.74	\$498.11
2"T	\$278.20	\$316.56	\$354.54	\$397.09	\$444.74	\$498.11
3"	\$561.63	\$616.29	\$690.24	\$773.07	\$865.84	\$969.74
3"T	\$588.15	\$671.79	\$752.41	\$842.70	\$943.82	\$1,057.08
4"	\$798.63	\$949.32	\$1,063.24	\$1,190.83	\$1,333.73	\$1,493.77
Single Family Dual Plumbed Residential ¹	\$52.66	\$46.72	\$52.32	\$58.60	\$65.64	\$73.51

1. This is the Single Family base charge less dual-plumbed recycled water bi-monthly base charge of \$31.16

* 5/8 & 3/4" meter Base Charges also apply to Ag Irrigation w/ residence and Small Farms but meters in this class larger than 3/4" are included in the "Agricultural Irrigation with residence and Small Farms" base charges.

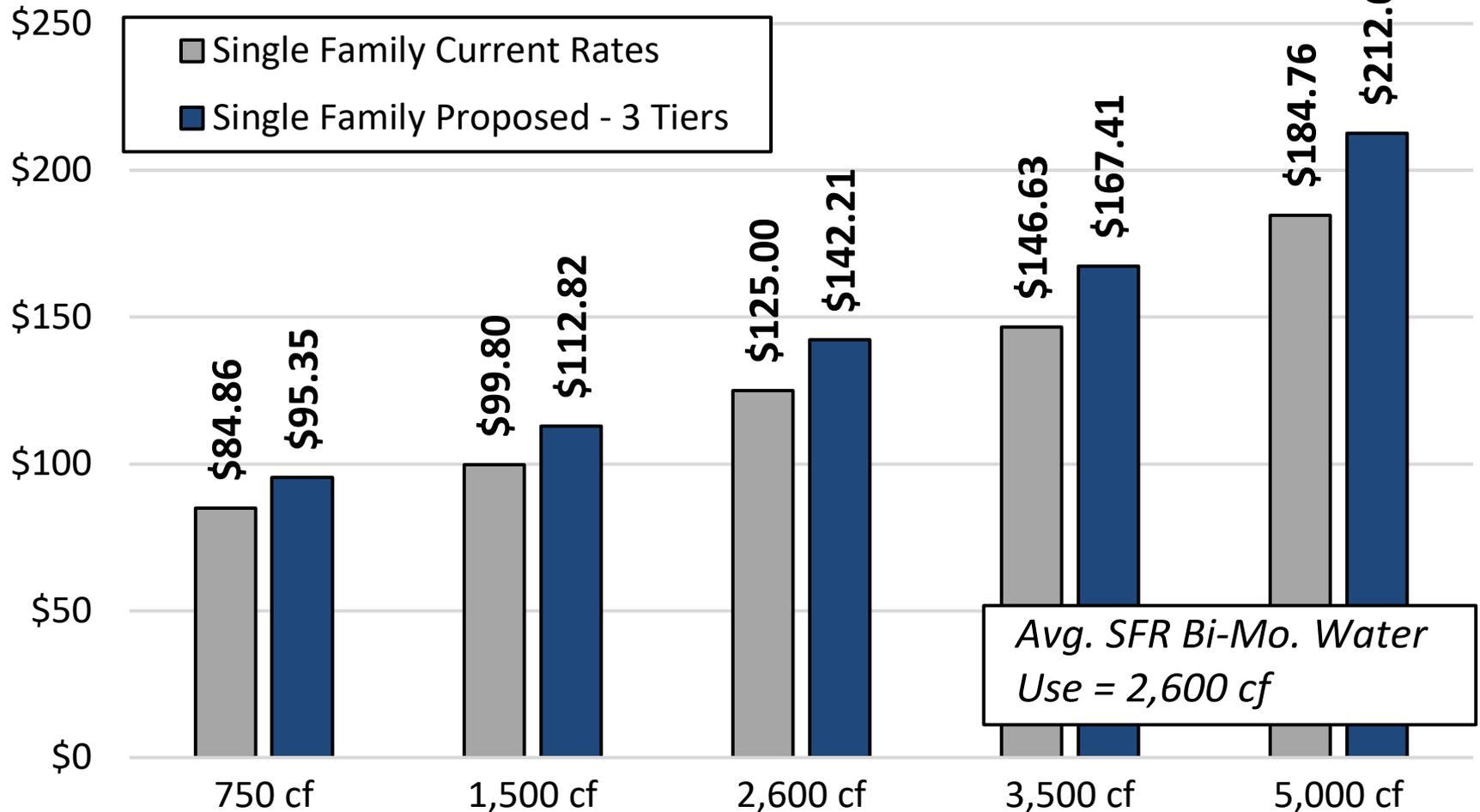
Proposed Rates - Water Commodity Charges

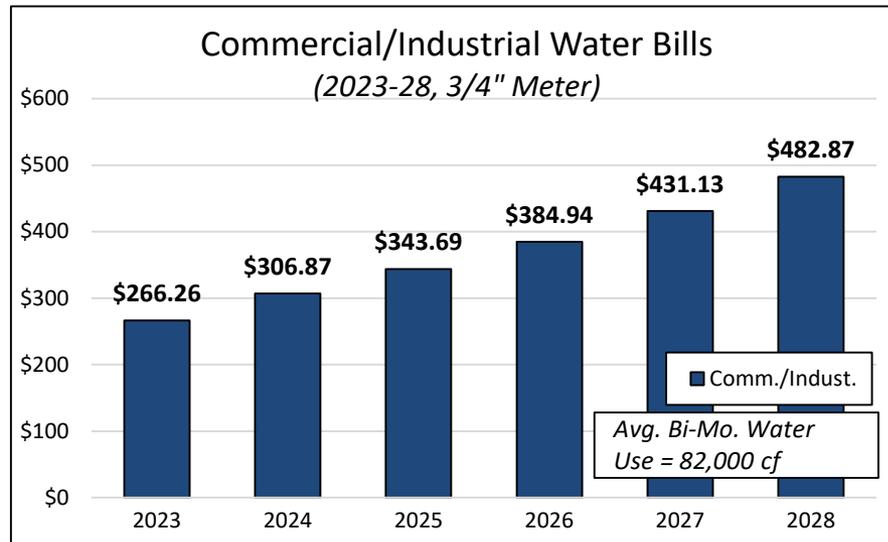
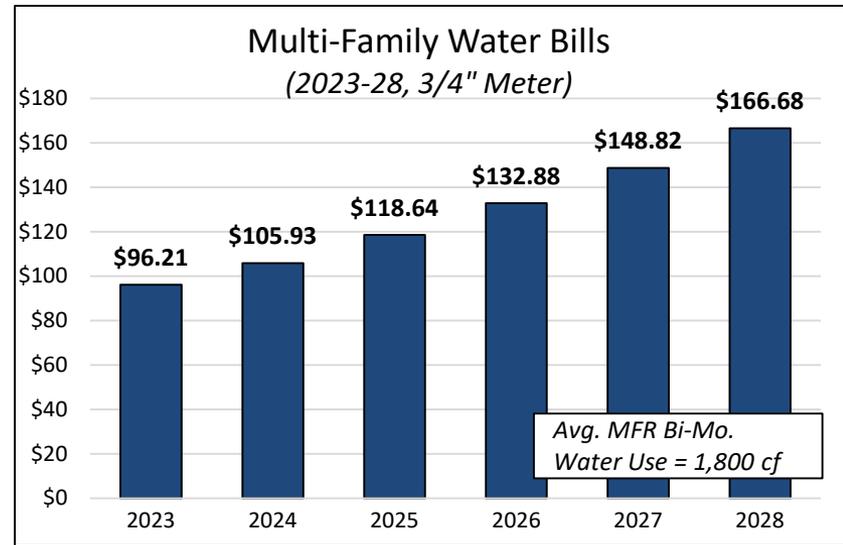
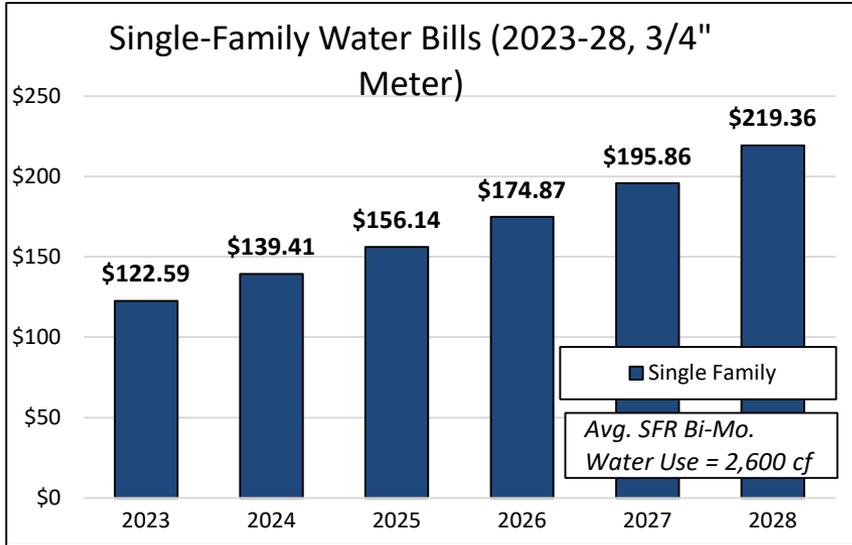
Commodity Charges for Potable and Raw Water Customers

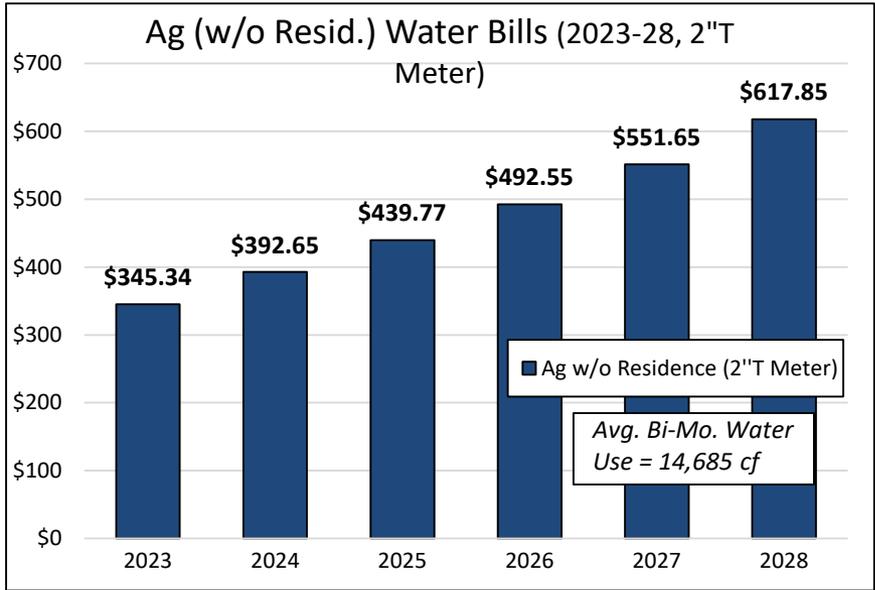
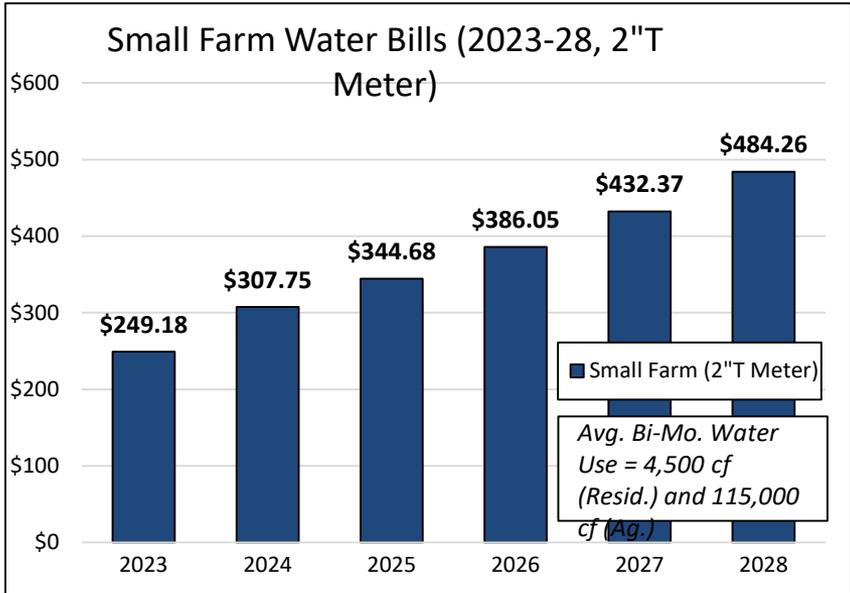
Commodity Charges	Current Rates	Proposed Rates				
		2024	2025	2026	2027	2028
Water						
Single Family Residential						
0 - 1,800 cf	\$0.019912	\$0.023293	\$0.026089	\$0.029219	\$0.032726	\$0.036653
1801 - 4,500 cf	\$0.024033	\$0.027998	\$0.031358	\$0.035121	\$0.039336	\$0.044056
Above 4,500 cf	\$0.028194	\$0.034553	\$0.038699	\$0.043343	\$0.048544	\$0.054369
Multi-Family, Commercial/Landscape, Rec Turf						
All usage	\$0.023294	\$0.027526	\$0.030830	\$0.034529	\$0.038673	\$0.043313
Agricultural Irrigation (with residence) and Small Farms						
0 - 4,500 cf (<i>Single Family Rates</i>)	<i>(See Single-Family Rates)</i>					
Above 4,500 cf	\$0.002222	\$0.002529	\$0.002832	\$0.003172	\$0.003553	\$0.003979
Agricultural Irrigation (without residence) and Raw Metered						
All usage	\$0.002222	\$0.002529	\$0.002832	\$0.003172	\$0.003553	\$0.003979
Raw Water Rates						
Metered Landscape Irrigation/ Seasonal Continuous Flow						
All usage	\$0.002222	\$0.002529	\$0.002832	\$0.003172	\$0.003553	\$0.003979

Bill Comparisons – Water Customers

Single-Family Water Bills (2024, 3/4" Meter)





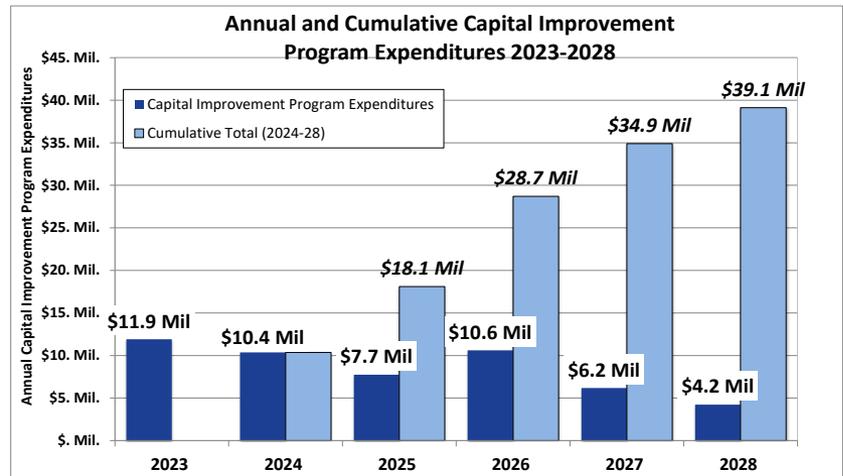
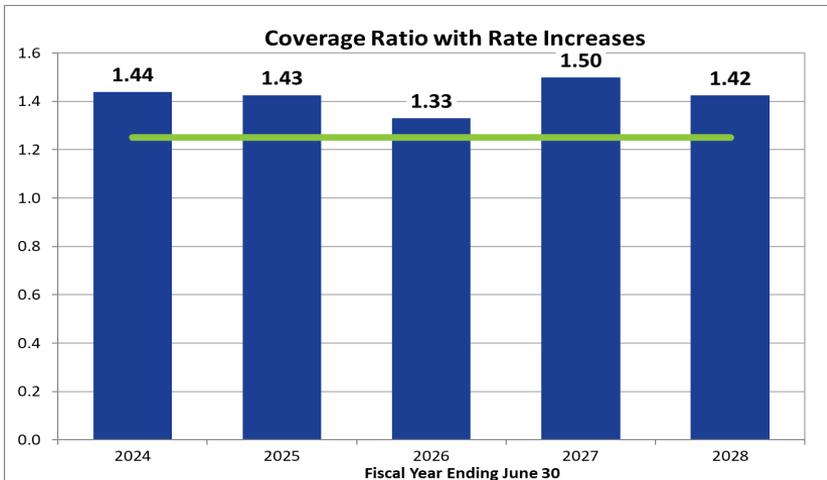
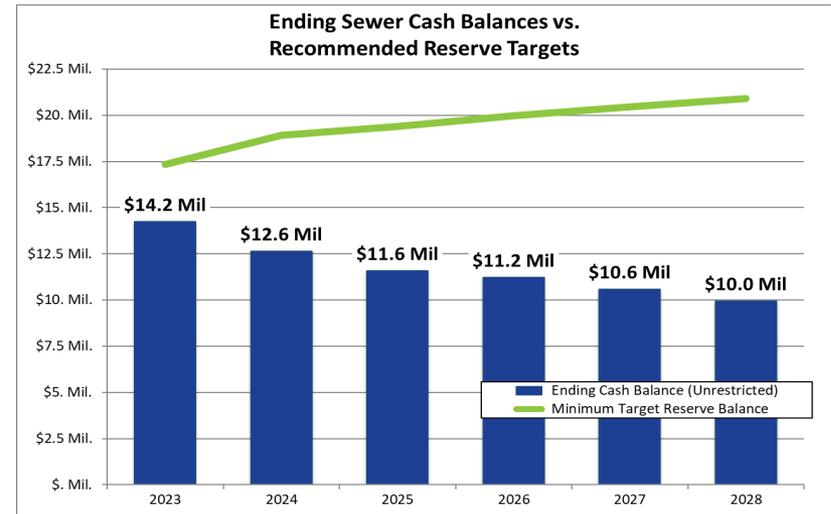
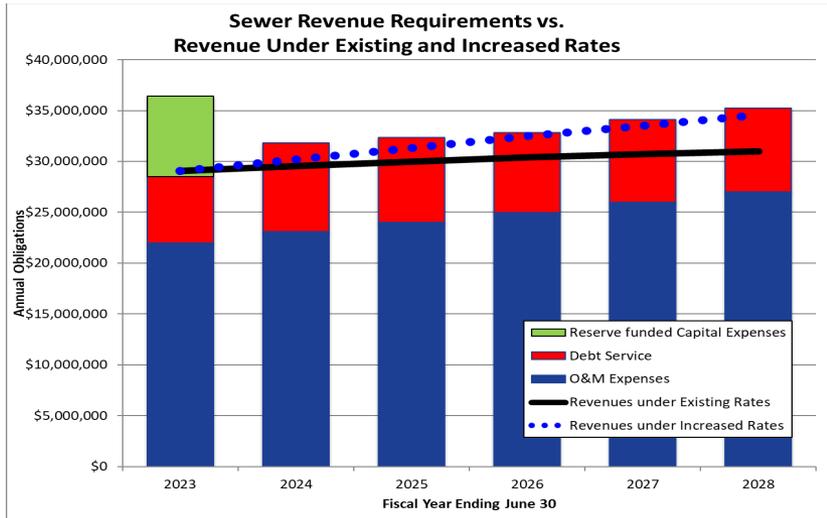


Summary of Bill Impacts for Average Water Customers by Year (and \$ and % Change by Year)

Water - Customer Bills by Year	2023	2024	2025	2026	2027	2028
Single Family - 3-Tier	\$122.59	\$139.41	\$156.14	\$174.87	\$195.86	\$219.36
Multi-Family Resid. (2 Units)	\$96.21	\$105.93	\$118.64	\$132.88	\$148.82	\$166.68
Commercial-Industrial	\$266.26	\$306.87	\$343.69	\$384.94	\$431.13	\$482.87
Small Farm (2" T Meter)	\$249.18	\$307.75	\$344.68	\$386.05	\$432.37	\$484.26
Ag w/o Residence (2" T Meter)	\$345.34	\$392.65	\$439.77	\$492.55	\$551.65	\$617.85
Water - \$ Change in Bills by Year	2023	2024	2025	2026	2027	2028
Single Family - 3-Tier		\$16.81	\$16.73	\$18.74	\$20.98	\$23.50
Multi-Family Resid. (2 Units)		\$9.71	\$12.71	\$14.24	\$15.95	\$17.86
Commercial-Industrial		\$40.61	\$36.82	\$41.24	\$46.19	\$51.74
Small Farm (2" T Meter)		\$58.57	\$36.93	\$41.36	\$46.33	\$51.88
Ag w/o Residence (2" T Meter)		\$47.31	\$47.12	\$52.77	\$59.11	\$66.20
Water - % Change in Bills by Year	2023	2024	2025	2026	2027	2028
Single Family - 3-Tier		13.7%	12.0%	12.0%	12.0%	12.0%
Multi-Family Resid. (2 Units)		10.1%	12.0%	12.0%	12.0%	12.0%
Commercial-Industrial		15.3%	12.0%	12.0%	12.0%	12.0%
Small Farm (2" T Meter)		23.5%	12.0%	12.0%	12.0%	12.0%
Ag w/o Residence (2" T Meter)		13.7%	12.0%	12.0%	12.0%	12.0%

Sewer Utility

Overview – Financial Plan



Overview – Sewer COSA

Sewer Costs are Assigned to Customers based on:

1. Flow-Related Costs - allocated by effluent generation **(Variable)**
2. Effluent Strength-Related Costs **(Fixed)**
 - Biochemical Oxygen Demand (BOD) - allocated by the pounds of BOD
 - Total Suspended Solids (TSS) - allocated by the pounds of TSS
3. Customer Costs - allocated by number of accounts or meters **(Fixed)**

COSA – Sewer

Sewer Cost Allocation Factors

Summary of Sewer Cost Allocation Percentages				
Customer Class	% of Total Flow	% of Total BOD	% of Total TSS	% of Accounts/ Meters
<i>Residential Customers</i>				
Single Family Residential	69.9%	63.3%	66.8%	94.9%
Multi Family Residential	12.1%	10.9%	11.5%	1.5%
<i>Commercial-Industrial</i>				
Commercial - Low	5.9%	3.3%	3.1%	2.1%
Commercial - Medium/Low	5.5%	5.7%	5.1%	0.8%
Commercial - Medium	0.4%	0.6%	0.8%	0.1%
Commercial - Medium/High	4.3%	15.1%	11.6%	0.5%
Commercial - High	0.0%	0.0%	0.0%	0.0%
<i>Schools</i>				
Schools	1.9%	1.2%	1.0%	0.1%
Annual Totals:	100.0%	100.0%	100.0%	100.0%

COSA – Sewer

Net Revenue Requirements by Customer Class

Customer Class	Cost Classification Components				Cost-of-Service Net Revenue Reqts.	% of COS Net Revenue Reqs.
	Volume	BOD	TSS	Customer		
Net Revenue Requirements¹	\$ 11,355,826	\$ 4,234,790	\$ 4,234,790	\$ 2,886,245	\$ 22,711,651	--
<i>% of Total</i>	<i>50.0%</i>	<i>18.6%</i>	<i>18.6%</i>	<i>12.7%</i>	<i>100.0%</i>	<i>--</i>
Residential Customers						
Single Family Residential	\$ 7,936,868	\$ 2,678,681	\$ 2,827,416	\$ 2,738,643	\$ 16,181,608	71.2%
Multi Family Residential	1,372,322	\$ 463,157	488,874	\$ 43,209	2,367,561	10.4%
Subtotal - Residential Customers	\$ 9,309,190	\$ 3,141,837	\$ 3,316,290	\$ 2,781,852	\$ 18,549,169	81.7%
Commercial-Industrial						
Commercial - Low	\$ 667,647	\$ 137,756	\$ 131,903	\$ 60,953	\$ 998,259	4.4%
Commercial - Medium/Low	\$ 625,931	\$ 241,693	\$ 217,138	\$ 22,814	1,107,577	4.9%
Commercial - Medium	\$ 42,649	\$ 24,703	\$ 35,495	\$ 3,802	106,650	0.5%
Commercial - Medium/High	\$ 489,559	\$ 639,978	\$ 492,736	\$ 13,827	1,636,101	7.2%
Commercial - High	\$ -	\$ -	\$ -	-	-	0.0%
Subtotal - Commercial-Industrial Customers	\$ 1,825,786	\$ 1,044,130	\$ 877,273	\$ 101,397	\$ 3,848,587	16.9%
Schools						
Schools (100% Fixed)	\$ 220,850	\$ 48,823	\$ 41,227	\$ 2,996	313,896	1.4%
Total:	\$ 11,355,826	\$ 4,234,790	\$ 4,234,790	\$ 2,886,245	\$ 22,711,651	100.0%

1. Rev. Req't. for each customer class is determined by multiplying the Rev. Req't. from each cost classification by the allocation factors for each customer class.

Rate Design Analysis – Sewer

- **Volumetric rates** are based on the amount of wastewater effluent contributed to the District’s collection system by each customer class.
- **Fixed charges** reflect strength and quantity of effluent.

Commercial Classes	Current Rate Design		Alternative Rate Design	
	Bi-mo. Fixed Charge Per Dwell. Unit or Acct.	Volumetric Rates (\$/CF)	Bi-mo. Fixed Charge Per Dwell. Unit or Acct.	Volumetric Rates (\$/CF)
Commercial - Low	\$ 166.86	\$ 0.03907	\$ 65.84	\$ 0.06580
Commercial - Medium/Low	\$ 475.75	\$ 0.04823		
Commercial - Medium	\$ 278.92	\$ 0.06711	\$ 136.26	\$ 0.08536
Commercial - Medium/High	\$ 1,145.78	\$ 0.09221	\$ 216.79	\$ 0.16825
Commercial - High	\$ -	\$ -		



These rates are intended to (1) reduce Commercial Classes to just 3 Classes (Low, Medium, and Medium/High), (2) to adjust the Bi-monthly fixed charges to (a) the SFR charge for Low, (b) twice the SFR charge for Medium, and (c) three times the SFR charge for Medium/High), and (3) adjust the commodity rates based on the adjusted fixed charges to collect the target revenue reqts.

COSA – Recycled Water

Recycled Water Cost Allocation Factors

Summary of Recycled Water Cost Allocation Percentages			
Customer Class	% Allocaton Flow/Consumption	% Allocaton/ Peaking Factor	% of Accounts/ Meters
<i>Recycled Water Customers</i>			
Commercial Landscape	25.7%	21.7%	3.2%
Recreational Turf	13.3%	16.8%	0.2%
Residential - Dual Plumbed	61.1%	61.4%	96.6%
Totals:	100.0%	100.0%	100.0%

COSA – Recycled Water

Net Revenue Requirements by Customer Class

Recycled Customer Class	Recycled Cost Classification Components				Cost-of-Service Net Revenue Reqts.	% of COS Net Revenue Reqts.
	(COM)	(CAP)	(FP)	(CA)		
Net Revenue Requirements¹	\$ 1,942,881	\$ 647,627	\$ -	\$ 647,627	\$ 3,238,135	--
<i>% of Total</i>	<i>60.0%</i>	<i>20.0%</i>	<i>0.0%</i>	<i>20.0%</i>	<i>100.0%</i>	
Commercial Landscape	\$ 498,359	\$ 140,762	\$ -	\$ 20,574	\$ 659,695	20.4%
Recreational Turf	\$ 257,946	\$ 109,024	\$ -	\$ 1,372	368,342	11.4%
Residential - Dual Plumbed	\$ 1,186,576	\$ 397,841	\$ -	\$ 625,681	2,210,098	68.3%
Total:	\$ 1,942,881	\$ 647,627	\$ -	\$ 647,627	\$ 3,238,135	100%

1. Revenue requirement by customer class is calculated by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.

Rate Design – Recycled Water

Calculation of Recycled Basic Charge and Volumetric Rate

Recycled Water Customer Class	Number of Customers	Dual-Plumbed Basic Charge (\$/bi-mo.)	Rate Revenue
<i>Total Dual-Plumbed - Basic Charges</i>	5,474	\$31.16	\$ 1,023,522

Rec Turf/Comm. Landscape/Dual Plumbed Customers	Target Volumetric	Water Consumption	Commodity Rates	
			(\$/ccf)	(\$/cf)
Rec Turf				
40% of Fixed Charge Revenue ^a	\$44,158			
Commodity Charge Revenue	\$257,946			
Recovered in Volumetric Rate	\$302,105	233,112		
Commercial Landscape				
40% of Fixed Charge Revenue ^a	\$64,535			
Commodity Charge Revenue	\$498,359			
Recovered in Volumetric Rate	\$562,893	450,378		
Dual-Plumbed Residential				
Commodity Charge Revenue	\$1,186,576			
Recovered in Volumetric Rate	\$1,186,576	1,072,336		
Totals	\$2,051,574	1,755,826		

Proposed Rates- Sewer Base Charges

Base Charges	Current Rates	Proposed Rates				
		2024	2025	2026	2027	2028
Wastewater Base Charges (Bi-Monthly)						
Residential Flat Rate District Average ¹	\$135.32	\$141.75	\$146.00	\$150.38	\$154.89	\$159.54
Single Family Residential	\$69.58	\$66.34	\$68.33	\$70.38	\$72.49	\$74.66
Multi-Family Residential (flat rate per unit)	\$31.31	\$39.11	\$40.28	\$41.49	\$42.73	\$44.02
<i>Commercial (all categories)</i>	<i>\$70.46</i>	<i>\$138.27</i>	<i>\$142.42</i>	<i>\$146.69</i>	<i>\$151.09</i>	<i>\$155.63</i>
<i>Commercial without water service (flat rate per unit)²</i>	<i>\$127.13</i>	<i>\$198.33</i>	<i>\$204.27</i>	<i>\$210.40</i>	<i>\$216.72</i>	<i>\$223.22</i>
Schools, per student and staff (billed annually)	\$13.09	\$19.04	\$19.61	\$20.19	\$20.80	\$21.42
Alternative Commercial Fixed Charges						
Commercial - Low	-	\$65.84	\$67.81	\$69.85	\$71.94	\$74.10
Commercial - Medium	-	\$136.26	\$140.35	\$144.56	\$148.90	\$153.37
Commercial - Medium/High	-	\$216.79	\$223.30	\$229.99	\$236.89	\$244.00
Commercial without water service (flat rate per unit) ³	-	\$314.51	\$323.95	\$333.67	\$343.68	\$353.99
Recycled Water Base Charges (Bi-Monthly)						
Single Family Dual Plumbed Residential ¹	\$17.37	\$31.16	\$32.10	\$33.06	\$34.05	\$35.07
Commercial Landscape/Recreational Turf						
5/8" and 3/4" meters	\$38.70	\$42.18	\$43.45	\$44.75	\$46.09	\$47.47
1"	\$56.74	\$63.71	\$65.62	\$67.59	\$69.61	\$71.70
1 1/2"	\$98.02	\$112.91	\$116.29	\$119.78	\$123.38	\$127.08
1 1/2"T	\$116.07	\$134.43	\$138.47	\$142.62	\$146.90	\$151.30
2"	\$149.61	\$174.41	\$179.64	\$185.03	\$190.58	\$196.30
2"T	\$149.61	\$174.41	\$179.64	\$185.03	\$190.58	\$196.30
3"	\$288.91	\$340.46	\$350.67	\$361.19	\$372.03	\$383.19
3"T	\$314.70	\$371.21	\$382.35	\$393.82	\$405.63	\$417.80
4"	\$443.68	\$524.96	\$540.71	\$556.93	\$573.64	\$590.85
4"T	\$554.59	\$657.19	\$676.91	\$697.21	\$718.13	\$739.67
6"	\$871.88	\$1,035.42	\$1,066.48	\$1,098.48	\$1,131.43	\$1,165.38
6"T	\$1,217.55	\$1,447.48	\$1,490.90	\$1,535.63	\$1,581.70	\$1,629.15
8"T	\$2,076.52	\$2,471.47	\$2,545.61	\$2,621.98	\$2,700.64	\$2,781.66
10"T	\$3,288.72	\$3,907.52	\$4,024.75	\$4,145.49	\$4,269.85	\$4,397.95
12"T	\$4,177.99	\$5,137.54	\$5,291.67	\$5,450.42	\$5,613.93	\$5,782.35

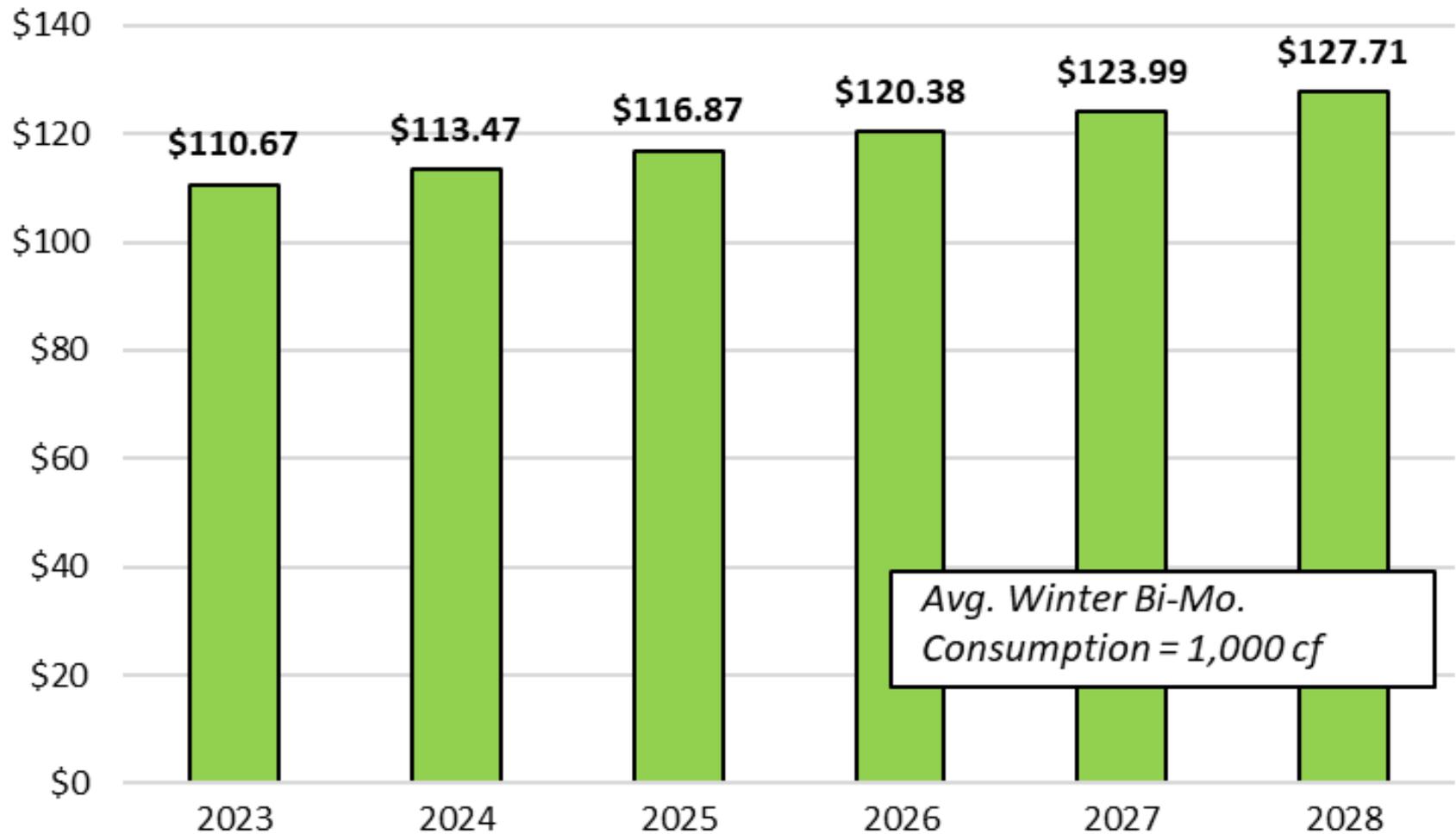
1. This rate includes the single-family bi-monthly fixed charge plus an assumed consumption of 1,600 cf charged at the single-family commodity rate.
2. The proposed 2024 rate includes the commercial - low bi-monthly fixed charge plus an assumed average flow of 1,600 cf times the commercial - low commodity rate.
3. Includes the adjusted comm. - low bi-mo. fixed charge plus the average flow for comm. - low customers of 37,800 cf times the adjusted comm. - low commodity rate.

Proposed Rates- Sewer Commodity Charges

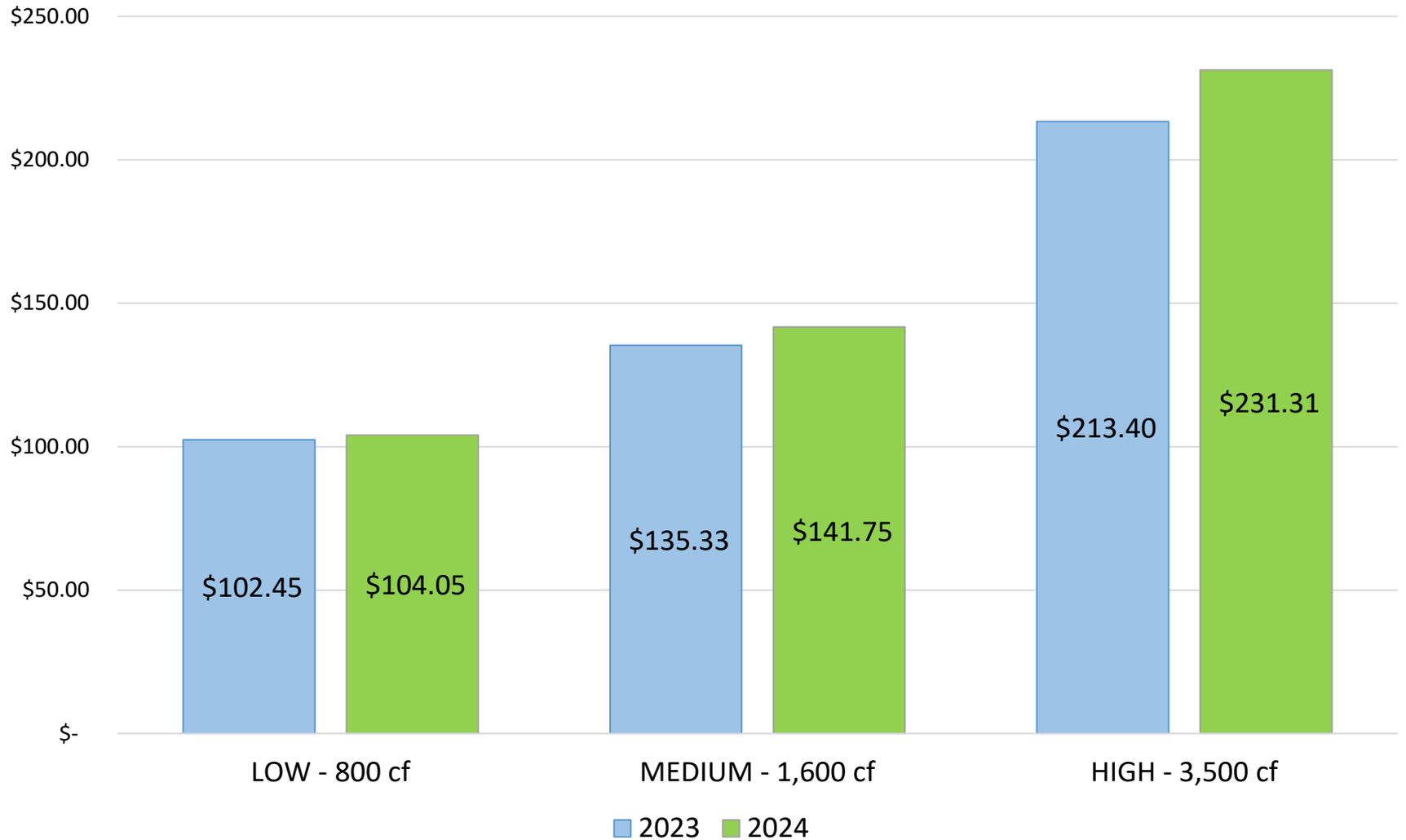
Commodity Charges	Current Rates	Proposed Rates				
		2024	2025	2026	2027	2028
Wastewater Commodity Rates (\$/CF)						
Single Family Residential - All Usage	\$0.041091	\$0.047133	\$0.048547	\$0.050003	\$0.051503	\$0.053048
Multi-Family Residential - All usage	\$0.032315	\$0.047133	\$0.048547	\$0.050003	\$0.051503	\$0.053048
Commercial/Industrial						
Commercial - Low	\$0.049278	\$0.084277	\$0.086805	\$0.089409	\$0.092092	\$0.094854
Commercial - Medium/Low	\$0.072570	\$0.087958	\$0.090597	\$0.093314	\$0.096114	\$0.098997
Commercial - Medium	\$0.106231	\$0.181471	\$0.186915	\$0.192522	\$0.198298	\$0.204247
Commercial - Medium/High	\$0.167191	\$0.177770	\$0.183104	\$0.188597	\$0.194255	\$0.200082
Commercial - High	\$0.364214	\$0.352735	\$0.363317	\$0.374217	\$0.385443	\$0.397006
Alternative Commercial Commodity Rates						
Commercial - Low	N.A.	\$0.065795	\$0.067769	\$0.069802	\$0.071897	\$0.074053
Commercial - Medium	N.A.	\$0.085355	\$0.087916	\$0.090553	\$0.093270	\$0.096068
Commercial - Medium/High	N.A.	\$0.168254	\$0.173301	\$0.178500	\$0.183855	\$0.189371
Recycled Water Commodity Rates (\$/CF)						
Dual Plumbed Residential						
0 - 3,000 cf (50% of Potable Tier 1)	\$0.009956	Replaced by Uniform Volumetric Rate				
3,001 - 4,500 cf (70% of Potable Tier 2)	\$0.016820					
Above 4,500 cf (90% of Potable Tier 3)	\$0.025375					
Commercial Landscape						
All Usage	\$0.007826					
Recreational Turf						
All Usage	\$0.008346					
Recycled Uniform Rate	N.A.	\$0.011684	\$0.012035	\$0.012396	\$0.012768	\$0.013151

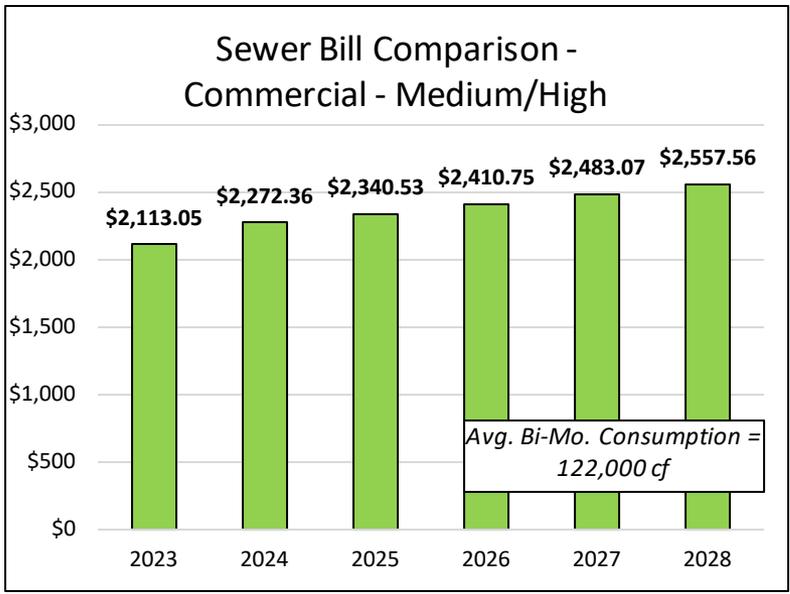
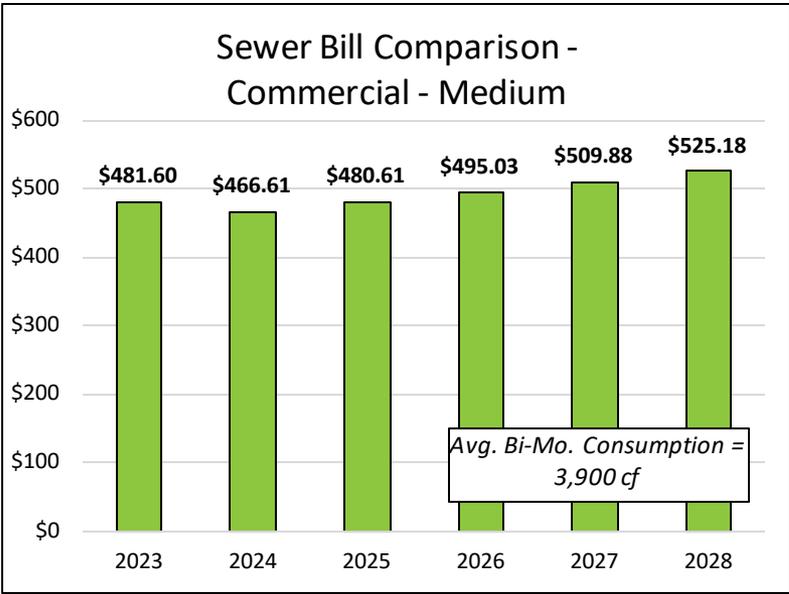
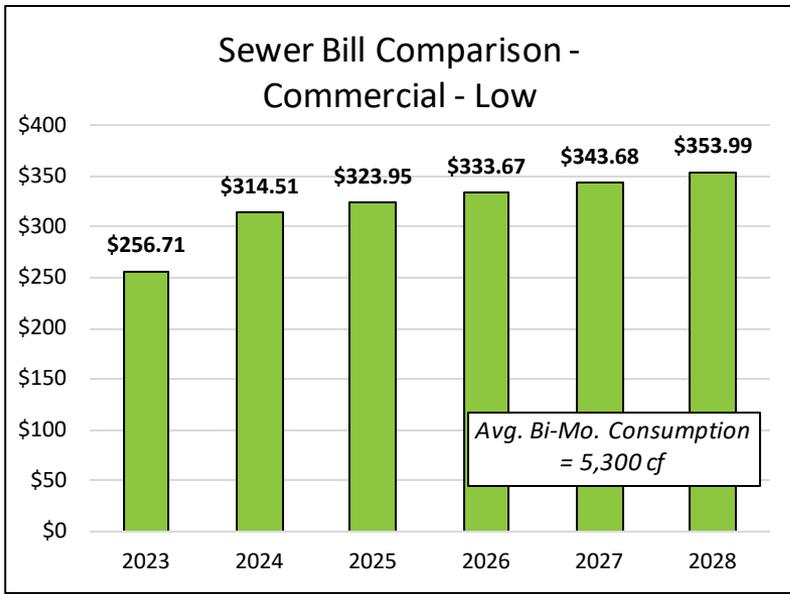
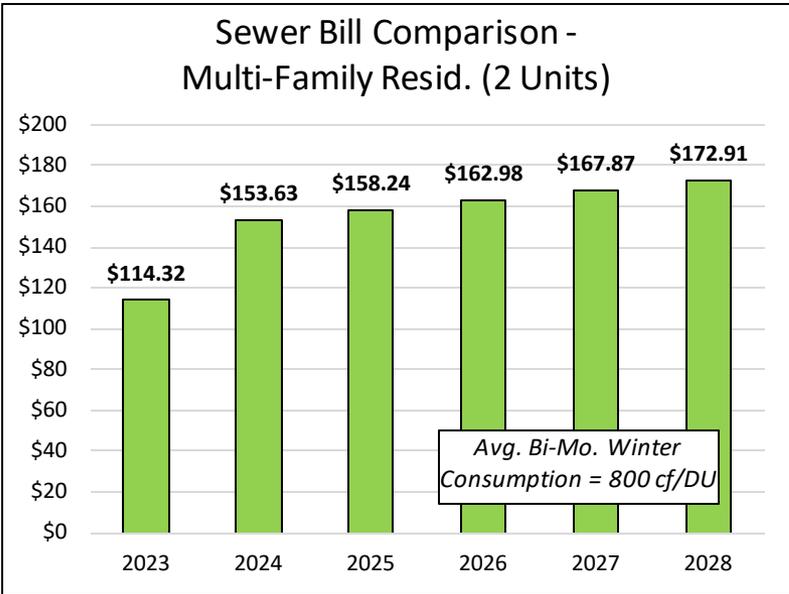
Bill Comparisons – Sewer Customers

Sewer Bill Comparison - Single Family Residential

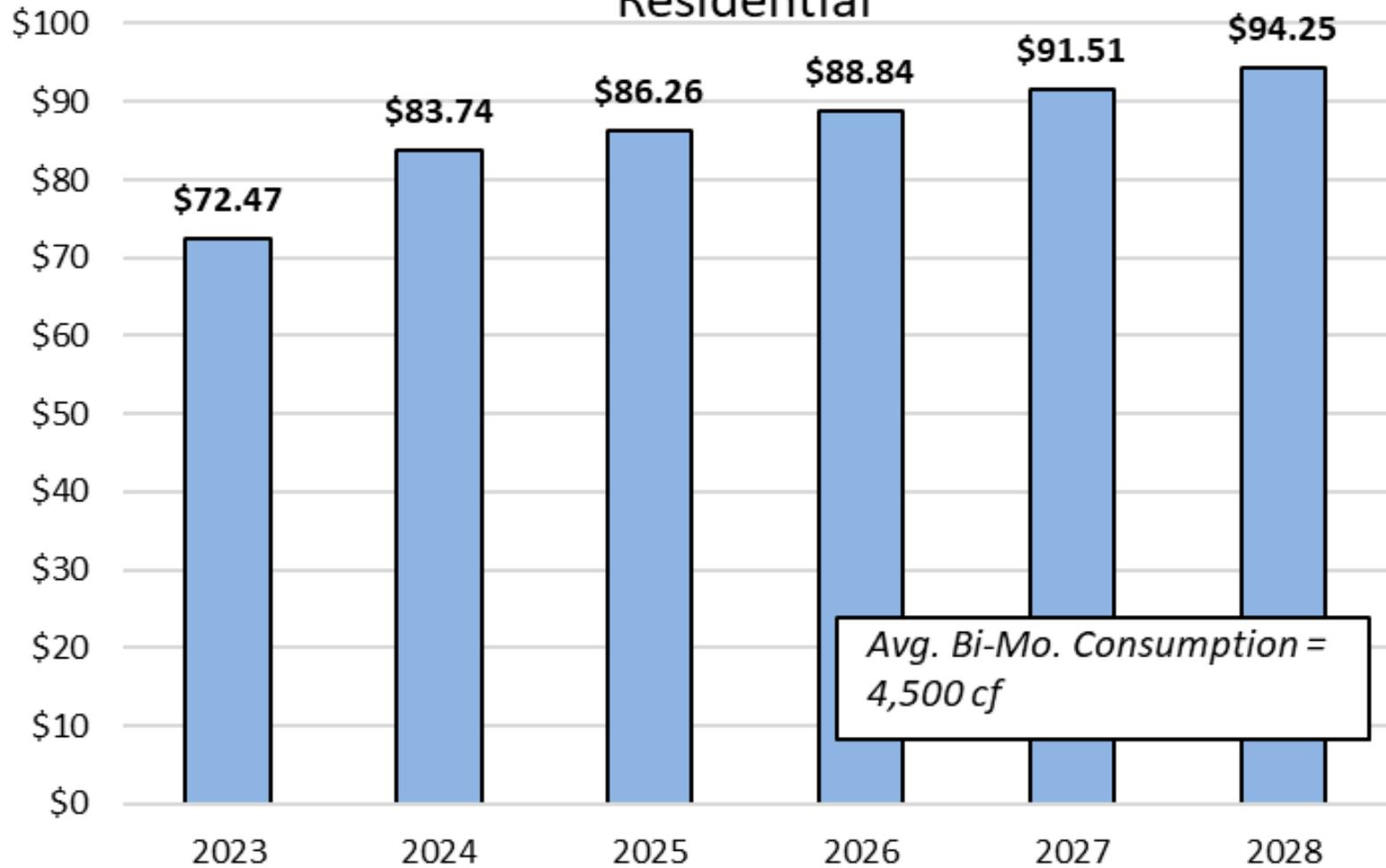


Sewer Bill Comparison – Single Family Residential





Recycled Bill Comparison - Single Family Residential



Summary of Bill Impacts for Average Sewer Customers by Year (and \$ and % Change by Year)

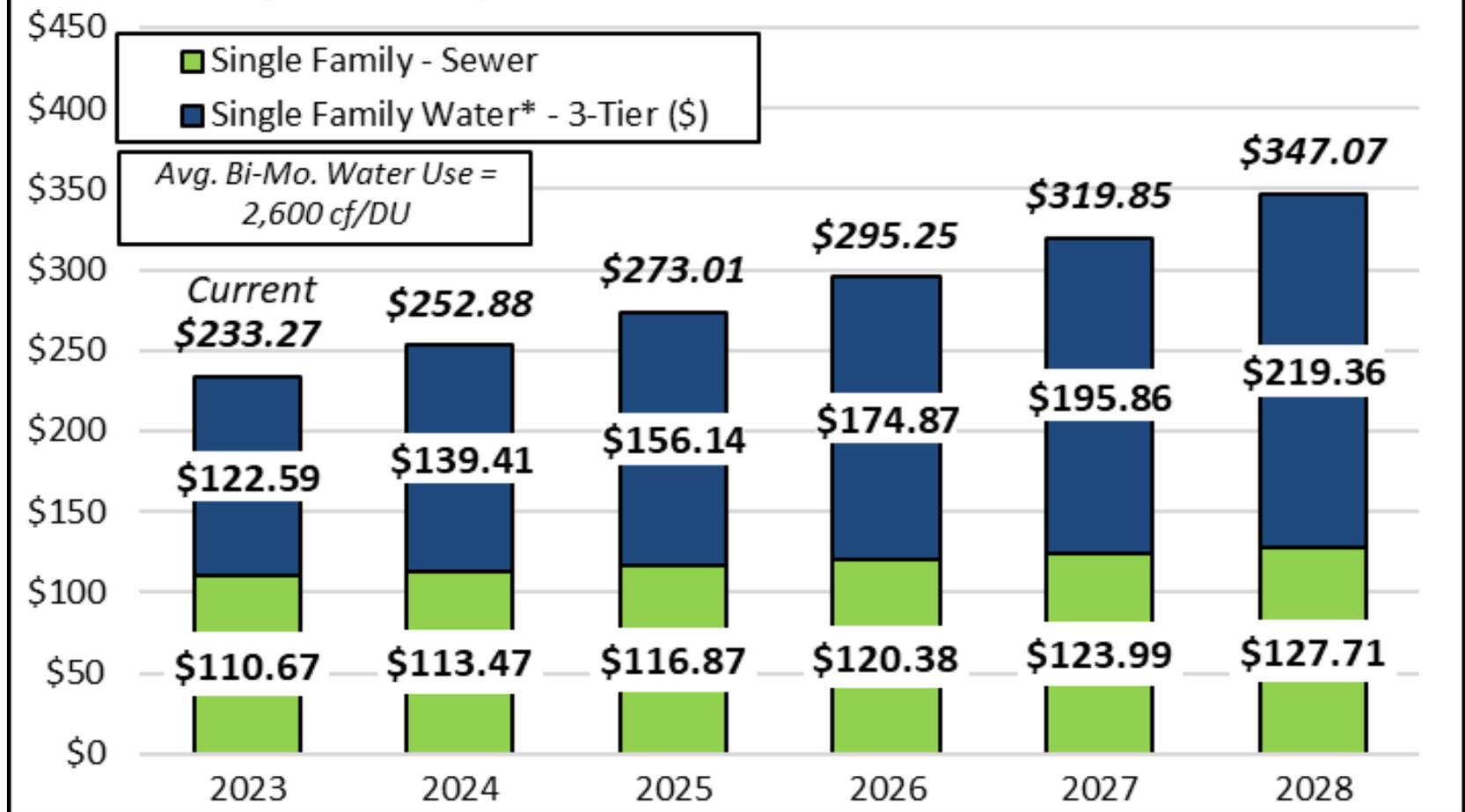
Sewer - Customer Bills by Year	2023	2024	2025	2026	2027	2028
Single Family Residential	\$110.67	\$113.47	\$116.87	\$120.38	\$123.99	\$127.71
Multi-Family Residential (2 Units)	\$114.32	\$153.63	\$158.24	\$162.98	\$167.87	\$172.91
Commercial - Low	\$256.71	\$314.51	\$323.95	\$333.67	\$343.68	\$353.99
Commercial - Medium	\$481.60	\$466.61	\$480.61	\$495.03	\$509.88	\$525.18
Commercial - Medium/High	\$2,113.05	\$2,272.36	\$2,340.53	\$2,410.75	\$2,483.07	\$2,557.56
<i>Recycled - Dual-Plumbed</i>	<i>\$72.47</i>	<i>\$83.74</i>	<i>\$86.26</i>	<i>\$88.84</i>	<i>\$91.51</i>	<i>\$94.25</i>

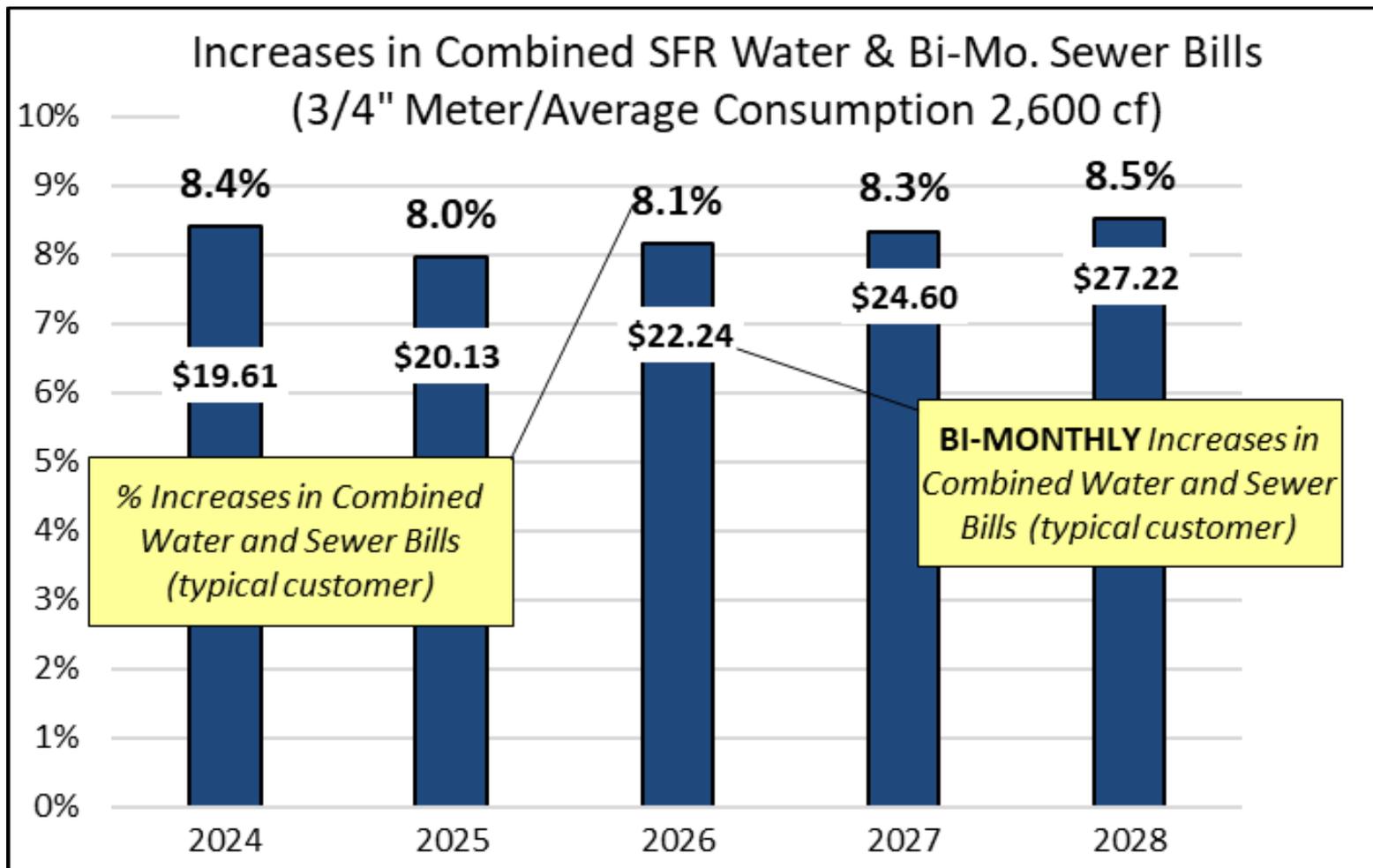
Sewer - \$ Change in Bills by Year	2023	2024	2025	2026	2027	2028
Single Family Residential		\$2.80	\$3.40	\$3.51	\$3.61	\$3.72
Multi-Family Residential (2 Units)		\$39.30	\$4.61	\$4.75	\$4.89	\$5.04
Commercial - Low		\$57.81	\$9.44	\$9.72	\$10.01	\$10.31
Commercial - Medium		-\$14.99	\$14.00	\$14.42	\$14.85	\$15.30
Commercial - Medium/High		\$159.32	\$68.17	\$70.22	\$72.32	\$74.49
<i>Recycled - Dual-Plumbed</i>		<i>\$11.27</i>	<i>\$2.51</i>	<i>\$2.59</i>	<i>\$2.67</i>	<i>\$2.75</i>

Sewer - % Change in Bills by Year	2023	2024	2025	2026	2027	2028
Single Family Residential		2.5%	3.0%	3.0%	3.0%	3.0%
Multi-Family Residential (2 Units)		34.4%	3.0%	3.0%	3.0%	3.0%
Commercial - Low		22.5%	3.0%	3.0%	3.0%	3.0%
Commercial - Medium		-3.1%	3.0%	3.0%	3.0%	3.0%
Commercial - Medium/High		7.5%	3.0%	3.0%	3.0%	3.0%
<i>Recycled - Dual-Plumbed</i>		<i>15.6%</i>	<i>3.0%</i>	<i>3.0%</i>	<i>3.0%</i>	<i>3.0%</i>

Bill Comparisons – Combined Water and Sewer Customers

Single-Family Water & Sewer Bills (3/4" Meter)

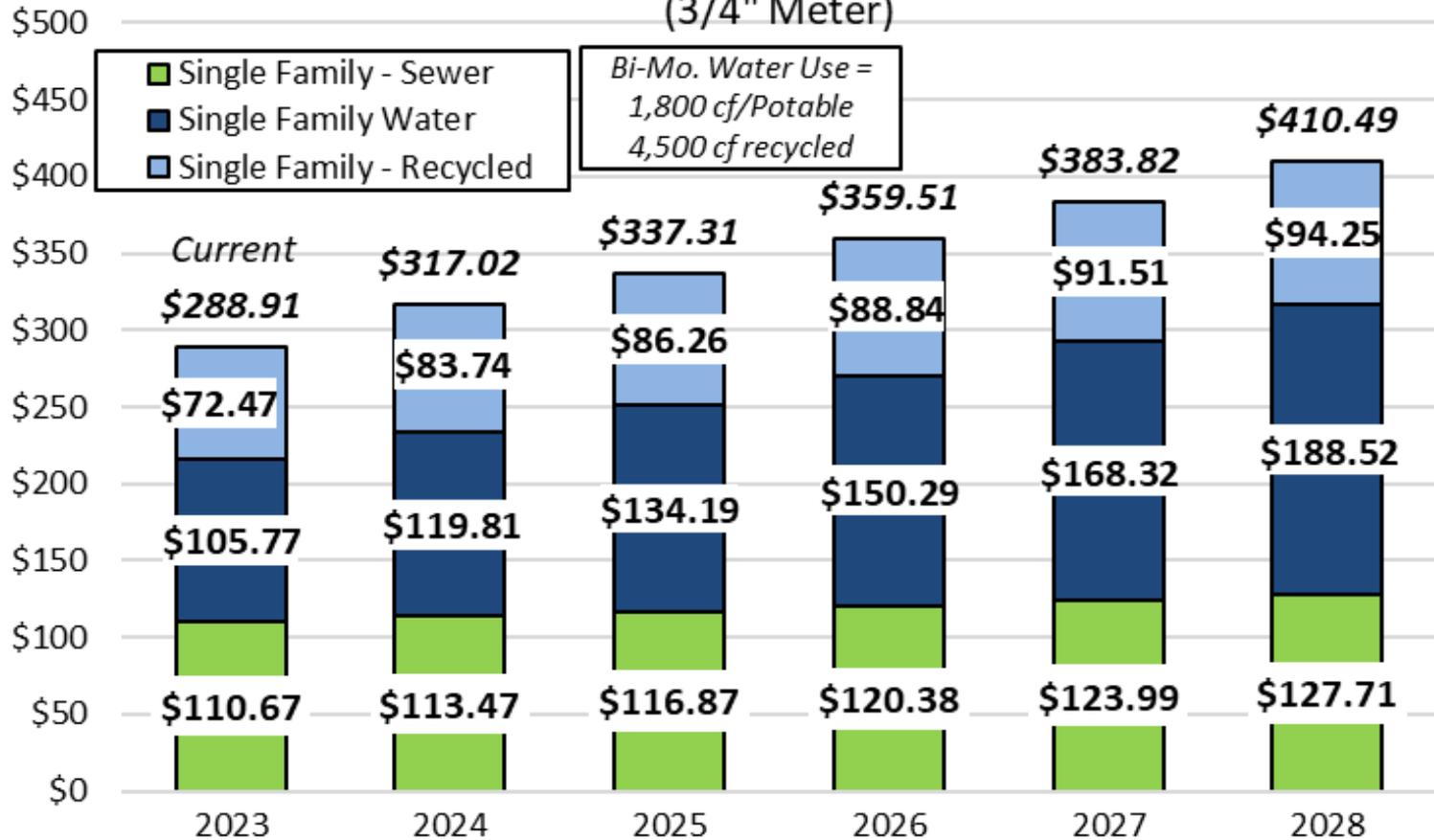


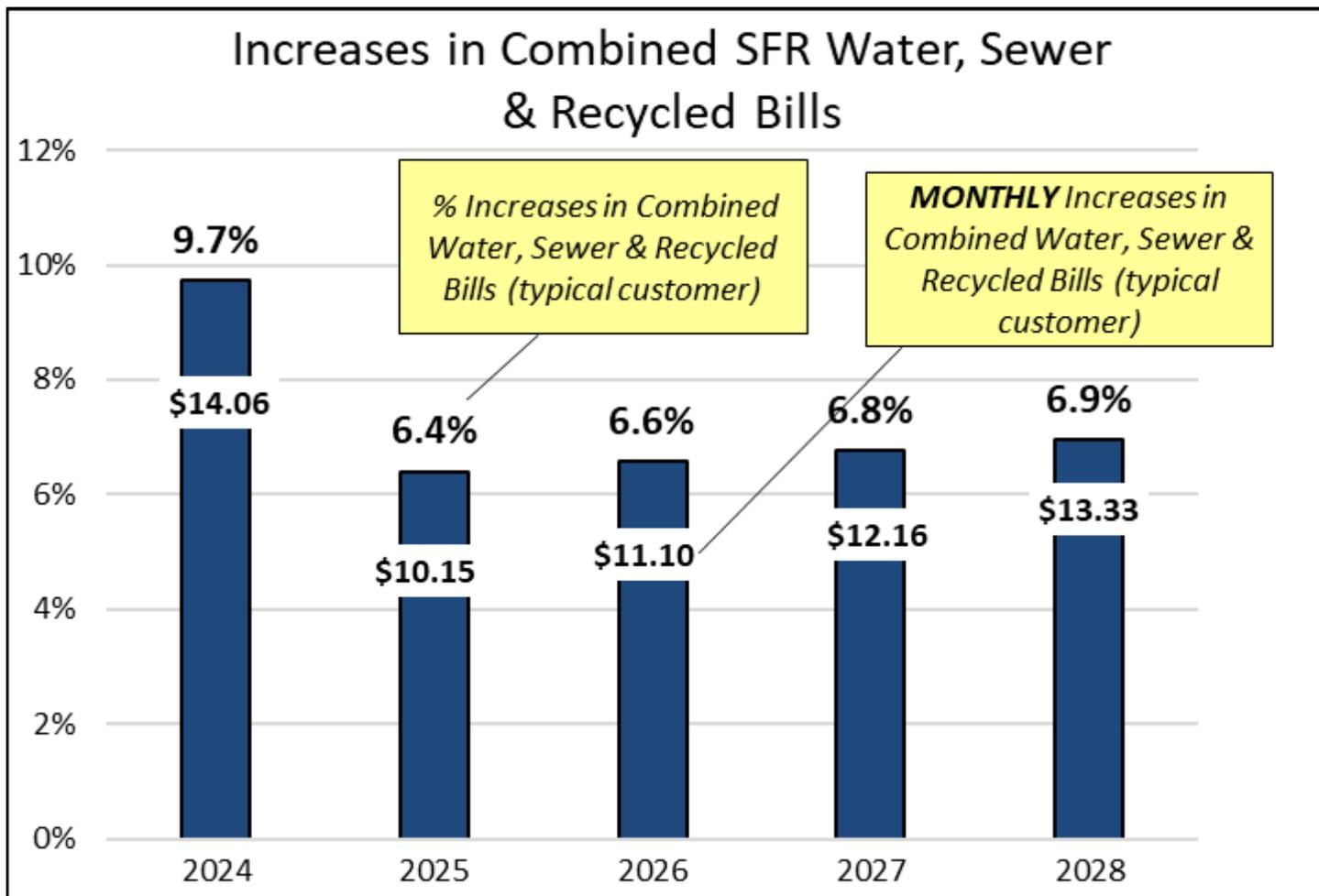


Bill Comparisons – Combined Water, Sewer & Recycled Customers

Single-Family Water, Sewer & Recycled Bills

(3/4" Meter)





Next Steps

- Community Workshops in November
- Provide Draft Rate Study Report - November 14 Board meeting
- Public Rate Hearing to Adopt Rates - December 11 Board meeting

Questions?

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider adopting the 2024–2028 Capital Improvement Plan.

PREVIOUS BOARD ACTION

November 14, 2022 – Board adopted the 2023–2027 Capital Improvement Plan (CIP), subject to available funding.

October 10, 2023 – Board held a workshop to review the draft 2024–2028 CIP.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 3010 Budget Development

SUMMARY OF ISSUE

Following the October 10, 2023 workshop, the 2024–2028 CIP has been prepared for Board consideration and adoption. The District’s CIP is a five-year planning document that identifies projects required to primarily address life cycle replacement of assets, health and safety, and legal and regulatory mandates, all aimed at maintaining and improving the reliability of EID’s services.

BACKGROUND/DISCUSSION

The draft 2024–2028 CIP presented at the October 10, 2023 workshop totaled approximately \$321 million over the next five-year period. No revisions to the plan were identified in the workshop or through subsequent staff review. The following table shows the planned expenses by program area:

	2024-2028 CAPITAL IMPROVEMENT PLAN					FIVE-YEAR PLAN
	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	TOTAL
 El Dorado Irrigation District	2024-2028 CAPITAL IMPROVEMENT PLAN					
	For Approval 10/23/2023					
FERC	\$2,191,195	\$727,671	\$999,191	\$945,682	\$332,292	\$5,196,031
Water	\$26,871,587	\$27,794,723	\$32,166,360	\$49,361,209	\$48,829,612	\$185,023,491
Wastewater	\$11,050,000	\$7,775,000	\$11,500,000	\$6,525,000	\$4,925,000	\$41,775,000
Recycled Water	\$984,084	\$1,563,510	\$1,714,340	\$1,060,140	\$325,000	\$5,647,074
Hydroelectric	\$7,090,000	\$7,055,000	\$4,715,000	\$24,015,000	\$25,140,000	\$68,015,000
Recreation	\$230,000	\$245,000	\$50,000	\$160,000	\$240,000	\$925,000
General District	\$7,207,401	\$2,566,000	\$2,092,800	\$1,860,000	\$1,147,000	\$14,873,201
TOTAL	\$55,624,267	\$47,726,904	\$53,237,691	\$83,927,031	\$80,938,904	\$321,454,797

FUNDING

Funding for the 2024–2028 CIP includes three components:

- 1) Two planned bond issuances (2024 and 2027) estimated at \$180 million in total
- 2) Pay-as-you-go from annual rate revenue/reserves
- 3) Facility Capacity Charge (FCC) revenue/reserves

The estimated CIP expenditures have been linked to the financial plan developed with the Cost of Service Analysis. The CIP is a planning document, and staff utilizes the plan to prioritize and carry out the projects identified in the plan. Nonetheless, staff will continue to bring individual projects and related contracts for Board consideration and authorization of funding throughout the year on an individual project basis.

BOARD OPTIONS

Option 1: Adopt the 2024–2028 Capital Improvement Plan, subject to available funding.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: CIP Summary

Attachment B: Project Worksheets



Brian Mueller
Engineering Director



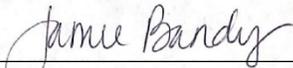
Dan Corcoran
Operations Director



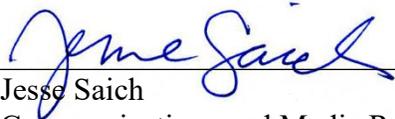
Aaron Kennedy
Information Technology Director



Jose Perez
Human Resources Director



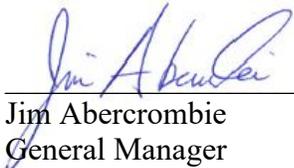
Jamie Bandy
Finance Director



Jesse Saich
Communications and Media Relations Manager



Brian Poulsen
General Counsel



Jim Abercrombie
General Manager



2024-2028 CAPITAL IMPROVEMENT PLAN

October 23, 2023

	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	FIVE-YEAR PLAN TOTAL
FERC	\$2,191,195	\$727,671	\$999,191	\$945,682	\$332,292	\$5,196,031
Water	\$26,871,587	\$27,794,723	\$32,166,360	\$49,361,209	\$48,829,612	\$185,023,491
Wastewater	\$11,050,000	\$7,775,000	\$11,500,000	\$6,525,000	\$4,925,000	\$41,775,000
Recycled Water	\$984,084	\$1,563,510	\$1,714,340	\$1,060,140	\$325,000	\$5,647,074
Hydroelectric	\$7,090,000	\$7,055,000	\$4,715,000	\$24,015,000	\$25,140,000	\$68,015,000
Recreation	\$230,000	\$245,000	\$50,000	\$160,000	\$240,000	\$925,000
General District	\$7,207,401	\$2,566,000	\$2,092,800	\$1,860,000	\$1,147,000	\$14,873,201
TOTAL	\$55,624,267	\$47,726,904	\$53,237,691	\$83,927,031	\$80,938,904	\$321,454,797

2023-2027 CAPITAL IMPROVEMENT PLAN

Approved November 14, 2022

	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	FIVE-YEAR PLAN TOTAL
FERC	\$1,546,195	\$427,671	\$314,191	\$715,682	\$557,292	\$3,561,030
Water	\$16,349,843	\$28,270,000	\$26,070,214	\$12,405,000	\$15,195,000	\$98,290,057
Wastewater	\$16,218,067	\$9,855,000	\$7,315,214	\$6,485,000	\$6,350,000	\$46,223,281
Recycled Water	\$150,000	\$300,000	\$400,000	\$325,000	\$325,000	\$1,500,000
Hydroelectric	\$6,567,656	\$9,565,000	\$10,550,000	\$4,070,000	\$7,735,000	\$38,487,656
Recreation	\$450,000	\$150,000	\$260,000	\$110,000	\$275,000	\$1,245,000
General District	\$7,377,675	\$4,714,500	\$2,527,000	\$2,241,000	\$2,130,000	\$18,990,175
TOTAL	\$48,659,436	\$53,282,171	\$47,436,619	\$26,351,682	\$32,567,292	\$208,297,200



2024 - 2028 Capital Improvement Plan FERC Projects

PROJECT NO.	PROJECT DESCRIPTION	Program	PROJECT Ranking Level 1	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	2024-2028 TOTAL
10007	FERC C51.1 and 51.2 RM Caples Auxiliary Dam and Boat Launch	FERC	1	40,000	40,000	40,000	40,000	40,000	200,000
06019H	FERC: C35 Oyster Creek	FERC	1	15,000	15,000	0	0	0	30,000
06021H	FERC C37.8 Water Temperature	FERC	1	30,000	35,000	35,000	30,000	35,000	165,000
06025H	FERC: C41 Canal Release Pt	FERC	1	10,000	0	0	0	0	10,000
06076H	FERC C38.4b Caples Spillway Channel Stabilization	FERC	1	15,000	15,000	15,000	0	0	45,000
06082H	FERC: C50.1 Silver Lake Campground East Re-Construction	FERC	1	1,230,000	0	0	0	0	1,230,000
06086H	FERC C33 Lake Aloha Trout Removal	FERC	1	20,000	0	0	0	0	20,000
06087H	FERC C37.1 Fish Monitoring	FERC	1	0	0	95,000	70,000	0	165,000
06088H	FERC: C37.2 Macroinvertebrate Monitoring	FERC	1	0	0	75,000	75,000	0	150,000
06089H	FERC: C37.3 Amphibian Monitoring	FERC	1	25,000	0	110,000	0	0	135,000
06090H	FERC: C37.4 Riparian Species Composition	FERC	1	0	0	30,000	0	0	30,000
06091H	FERC: C37.5 Riparian Vegetation Recruitment	FERC	1	0	0	30,000	0	0	30,000
06092H	FERC: C37.7 Geomorphology Evaluation	FERC	1	0	0	80,000	0	0	80,000
06095H	FERC: C54 Visual Resources Management Plan	FERC	1	5,000	0	0	0	0	5,000
06096H	FERC: C55 Heritage Resources	FERC	1	60,000	0	0	0	0	60,000
06097H	FERC: C59 Facility Management Plan	FERC	1	10,000	0	0	0	0	10,000
06098H	FERC: C46 thru C49 Recreation Resource Management	FERC	1	10,000	0	0	0	0	10,000
07003H	FERC: C37.9 Water Quality	FERC	1	100,000	0	0	105,000	0	205,000
07005H	FERC: C51.3 RM Echo Trailhead	FERC	1	8,000	8,000	8,000	8,000	8,000	40,000
07006H	FERC: C51.5 and C51.7 RM USFS Payments	FERC	1	53,195	54,671	56,191	57,682	59,292	281,030
07010H	FERC: C15 Pesticide Use	FERC	1	80,000	80,000	80,000	80,000	80,000	400,000
07011H	FERC: C38 Adaptive Management Program	FERC	1	50,000	50,000	50,000	50,000	50,000	250,000
07030H	FERC: C57 Transportation System Management Plan	FERC	1	400,000	400,000	250,000	400,000	30,000	1,480,000
08025H	FERC C44 Noxious Weed Monitoring	FERC	1	30,000	30,000	45,000	30,000	30,000	165,000
TOTAL				2,191,195	727,671	999,191	945,682	332,292	5,196,030



2024 - 2028 Capital Improvement Plan

Water Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	2024-2028 TOTAL
17011	Crestview Pump Station Replacement Project	WA	1	775,000	0	0	0	0	775,000
17035	Green Valley Bridge Relocation	WA	1	0	0	700,000	0	0	700,000
20030	Drop Off Road Waterline Extension	WA	1	1,100,000	0	0	0	0	1,100,000
21040	Water Facility Generators - FEMA Grant	WA	1	500,000	0	0	0	0	500,000
22038	Reservoir A Filter Valve Replacements	WA	1	1,432,917	0	0	0	0	1,432,917
23010	Res 1 Water Treatment Plant Generator Replacement	WA	1	525,000	0	0	0	0	525,000
23017	El Dorado Hills WTP Clear Well Pump Replacement	WA	1	153,000	0	0	0	0	153,000
PLANNED	Placerville Drive Hangtown Creek Bridge Replacement	WA	1	75,000	975,000	0	0	0	1,050,000
PLANNED	Pleasant Valley Road Bulk Water Station Upgrades	WA	1	0	70,000	125,000	0	0	195,000
PLANNED	Sly Park Spillway Improvements	WA	1	120,000	200,000	0	0	0	320,000
PLANNED	Water Arc Flash Risk Assessment Program	WA	1	50,000	50,000	50,000	50,000	50,000	250,000
16003	Permit 21112 Change in Point of Diversion	WA	2	275,000	200,000	100,000	0	0	575,000
21015	Swansboro Pump Station Replacement Project	WA	2	0	50,000	0	0	0	50,000
21079	Sly Park Intertie Improvements	WA	2	10,500,000	10,400,000	0	0	0	20,900,000
22019	Pleasant Oak Main Pressure Reducing Station #2 Upgrade	WA	2	175,000	250,000	0	0	0	425,000
23001	AMR and Small Meter Replacement	WA	2	360,000	360,000	400,000	400,000	425,000	1,945,000
23002	Serviceline Replacement Program	WA	2	2,750,000	2,750,000	3,000,000	3,000,000	3,450,000	14,950,000
23009	Reservoir 1 Storage Replacement	WA	2	550,000	1,000,000	7,500,000	0	0	9,050,000
23025	Valve Replacement EDM1 And EDM2	WA	2	50,000	100,000	0	0	0	150,000
PLANNED	Construction Spoils Management	WA	2	420,000	750,000	0	0	0	1,170,000
PLANNED	EDH Water Treatment Plant Phase 1-3 Improvements	WA	2	2,688,000	4,388,000	11,971,000	20,771,000	23,221,000	63,039,000
PLANNED	El Dorado Hills Raw Water Pump Station 4160 Enclosure	WA	2	150,000	0	0	0	0	150,000
PLANNED	Pressure Reducing Station Rehabilitation and Replacement Program	WA	2	50,000	200,000	750,000	350,000	900,000	2,250,000
PLANNED	Pump Station Rehabilitation and Replacement Program	WA	2	75,000	75,000	100,000	1,000,000	600,000	1,850,000
PLANNED	Res 1 Water Treatment Plant Phase 1 Improvements Program	WA	2	537,000	1,237,000	1,312,000	13,560,000	13,560,000	30,206,000
PLANNED	Reservoir A Backwash to Waste Valve Replacement	WA	2	0	195,000	1,925,000	0	0	2,120,000
PLANNED	Ridgeview Pump Station Rehabilitation	WA	2	0	100,000	0	0	0	100,000
PLANNED	SCADA Water Hardware Replacement Program	WA	2	100,000	100,000	100,000	100,000	100,000	500,000
PLANNED	Sly Park Outlet Control Facility Improvements	WA	2	0	50,000	100,000	0	0	150,000
PLANNED	Storage Tank Replacement & Rehabilitation Program	WA	2	2,785,670	2,944,723	1,258,360	6,730,209	2,973,612	16,692,573
PLANNED	Transmission Slope Stabilization	WA	2	0	75,000	600,000	0	0	675,000
PLANNED	Valve Replacement Program	WA	2	0	100,000	125,000	125,000	150,000	500,000
PLANNED	Water Treatment Plant Asset Replacement Program	WA	2	500,000	500,000	0	0	0	1,000,000



2024 - 2028 Capital Improvement Plan

Water Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	2024-2028 TOTAL
PLANNED	Water Treatment Plant Flow Meters Upgrade	WA	2	0	0	0	0	100,000	100,000
PLANNED	Waterline Replacement Program	WA	2	0	150,000	2,000,000	3,000,000	3,000,000	8,150,000
PLANNED	Wholesale Meter Replacement	WA	2	0	250,000	0	275,000	0	525,000
PLANNED	Large Meter Replacement	WA	2	0	0	0	0	250,000	250,000
19050	Construction Storage Facility	WA	3	75,000	225,000	0	0	0	300,000
PLANNED	Water Distribution Radio Path Program	WA	3	50,000	50,000	0	0	0	100,000
PLANNED	Water Model - Validation and Update	WA	3	50,000	0	50,000	0	50,000	150,000
TOTAL				26,871,587	27,794,723	32,166,360	49,361,209	48,829,612	185,023,490



2024 - 2028 Capital Improvement Plan

Wastewater Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	2024-2028 TOTAL
21041	Wastewater Facility Generators - FEMA Grant	WW	1	210,000	0	0	0	0	210,000
21081	Motherlode Force Main Replacement Program	WW	1	5,000,000	0	0	0	0	5,000,000
PLANNED	Camino Heights Wastewater Treatment Plant Disposal Improvements	WW	1	0	150,000	200,000	0	0	350,000
PLANNED	Wastewater Arc Flash Risk Assessment Program	WW	1	50,000	50,000	50,000	50,000	50,000	250,000
15036	Silva Valley - El Dorado Hills Sewer Pipeline	WW	2	0	0	300,000	350,000	350,000	1,000,000
17046	Strolling Hills Pipeline Improvements	WW	2	500,000	3,000,000	3,000,000	0	0	6,500,000
18003	Indian Creek Lift Station Upgrades	WW	2	1,325,000	1,250,000	0	0	0	2,575,000
20040	Deer Park LS SCADA Hardware Replacement	WW	2	65,000	0	0	0	0	65,000
21007	Town Center Force Main Phase 4 Replacement	WW	2	0	0	0	0	100,000	100,000
21026	St. Andrews Lift Station Upgrades	WW	2	100,000	250,000	0	0	0	350,000
PLANNED	Collections Pipeline Replacement and Rehabilitation Program	WW	2	2,500,000	250,000	1,250,000	250,000	1,250,000	5,500,000
PLANNED	Collections SCADA and PLC Upgrade Program	WW	2	400,000	400,000	300,000	0	0	1,100,000
PLANNED	DCWWTP PLC Replacement Program	WW	2	0	150,000	150,000	150,000	0	450,000
PLANNED	DCWWTP Process Control Device Integration	WW	2	75,000	75,000	0	0	0	150,000
PLANNED	EDHWWTP PLC Replacement Project	WW	2	0	300,000	400,000	400,000	0	1,100,000
PLANNED	El Dorado Hills Lift Station Consolidation	WW	2	0	150,000	150,000	0	0	300,000
PLANNED	El Dorado Lift Station Site Improvements	WW	2	0	0	250,000	0	0	250,000
PLANNED	Ponderosa Heights Force Main Replacement	WW	2	0	250,000	750,000	750,000	0	1,750,000
PLANNED	Promontory Village Inflow & Infiltration Study	WW	2	0	0	0	25,000	100,000	125,000
PLANNED	SCADA Wastewater Hardware Replacement Program	WW	2	100,000	100,000	100,000	100,000	100,000	500,000
PLANNED	Wastewater Asset Replacement Program	WW	2	500,000	500,000	500,000	500,000	500,000	2,500,000
PLANNED	Wastewater Lift Station Upgrade Program	WW	2	0	175,000	1,625,000	1,475,000	2,250,000	5,525,000
PLANNED	Wastewater Treatment Plant Assessments	WW	2	0	200,000	250,000	250,000	0	700,000
PLANNED	WWTP Solids Handling Replacement	WW	2	0	300,000	2,000,000	2,000,000	0	4,300,000
PLANNED	WWTP Process Improvement Program	WW	2	175,000	175,000	175,000	175,000	175,000	875,000
PLANNED	Wastewater Collection System Hydraulic Modeling	WW	3	50,000	50,000	50,000	50,000	50,000	250,000
TOTAL				11,050,000	7,775,000	11,500,000	6,525,000	4,925,000	41,775,000



2024 - 2028 Capital Improvement Plan Recycled Water Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	2024-2028 TOTAL
PLANNED	Recycled Storage Tank Replacement & Rehabilitation Pr	RW	2	859,084	1,188,510	1,389,340	735,140	0	4,172,074
PLANNED	Recycled Water Asset Program	RW	2	75,000	175,000	75,000	75,000	75,000	475,000
PLANNED	Recycled Water Distribution Program	RW	2	50,000	125,000	250,000	250,000	250,000	925,000
PLANNED	Recycled Water Radio Path Design and Replacement	RW	2	0	75,000	0	0	0	75,000
Total			TOTAL:	984,084	1,563,510	1,714,340	1,060,140	325,000	5,647,074



2024 - 2028 Capital Improvement Plan Hydroelectric Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	2024-2028 TOTAL
19031	Silver Lake Dam Replacement	HY	1	700,000	1,980,000	2,200,000	22,500,000	22,500,000	49,880,000
21008	Diversion - Facility Upgrades	HY	1	300,000	0	0	0	0	300,000
PLANNED	Hydro Arc Flash Risk Assessment Program	HY	1	50,000	65,000	50,000	0	50,000	215,000
17028	Flume 48 Replacement	HY	2	50,000	200,000	250,000	200,000	0	700,000
18010	Penstock Improvements	HY	2	200,000	200,000	185,000	80,000	80,000	745,000
19021	Canal RTU Replacement Control Sites	HY	2	150,000	325,000	325,000	325,000	0	1,125,000
19024	Echo Conduit Rehabilitation	HY	2	80,000	0	0	0	0	80,000
21004	A18 Fiber Communication Improvements	HY	2	300,000	0	0	0	0	300,000
21013	Flumes 45A, 46A, 47A, and 47B Replacement	HY	2	0	0	0	0	2,000,000	2,000,000
21016	Penstock Stabilization	HY	2	80,000	520,000	170,000	0	0	770,000
21028	Powerhouse Automation Replacement	HY	2	75,000	500,000	0	0	0	575,000
22014	Flume 45 Section 3 Replacement	HY	2	500,000	10,000	10,000	10,000	10,000	540,000
22030	Flume 47A Replacement	HY	2	3,200,000	0	0	0	0	3,200,000
23016	Camp 2 Structure	HY	2	0	0	250,000	0	0	250,000
PLANNED	14 Mile Tunnel Improvements	HY	2	200,000	2,000,000	0	0	0	2,200,000
PLANNED	Annual Canal and Flume Improvements Program	HY	2	425,000	300,000	300,000	300,000	300,000	1,625,000
PLANNED	Annual Reservoir and Dam Improvements Program	HY	2	165,000	50,000	50,000	50,000	50,000	365,000
PLANNED	Camp 5 Generator Replacement	HY	2	0	50,000	250,000	0	0	300,000
PLANNED	Ditch SCADA Hardware Replacement	HY	2	0	0	50,000	150,000	0	200,000
PLANNED	Diversion - A11 Flow Control	HY	2	80,000	0	0	0	0	80,000
PLANNED	Flume 4 Replacement	HY	2	0	250,000	250,000	0	0	500,000
PLANNED	Hydro Equipment and Facility Replacement Program	HY	2	75,000	75,000	75,000	75,000	75,000	375,000
PLANNED	Hydro Powerhouse Equipment and Facility Replacement	HY	2	75,000	75,000	75,000	75,000	75,000	375,000
PLANNED	Lakes Remote Telemetry Units Replacement	HY	2	50,000	275,000	0	0	0	325,000
PLANNED	Powerhouse Turbine Runner Upgrade	HY	2	50,000	50,000	0	0	0	100,000
PLANNED	Spill 3 Crib Wall Replacement	HY	2	0	0	125,000	200,000	0	325,000
STUDY 2023	2024 Canal Assessment	HY	2	50,000	0	0	0	0	50,000
STUDY 2024	2024 Siphon Assessment	HY	2	60,000	0	0	0	0	60,000



2024 - 2028 Capital Improvement Plan Hydroelectric Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	2024-2028 TOTAL
STUDY 2025	2025 Canal Release Points Assessment	HY	2	0	80,000	0	0	0	80,000
STUDY 2026	2026 Tunnel Assessment	HY	2	0	0	50,000	0	0	50,000
STUDY 2027	2027 Flume Assessment	HY	2	0	0	0	50,000	0	50,000
21003	Diversion Repeater Site	HY	3	175,000	0	0	0	0	175,000
21009	Diversion - Fish Ladder Improvements	HY	3	0	50,000	50,000	0	0	100,000
Total				7,090,000	7,055,000	4,715,000	24,015,000	25,140,000	68,015,000



2024 - 2028 Capital Improvement Plan Recreation Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	2024-2028 TOTAL
PLANNED	Recreation Facility Replacement Program	RE	2	175,000	100,000	25,000	100,000	100,000	500,000
18023	Acorn Day Use Area	RE	3	5,000	20,000	0	0	0	25,000
PLANNED	Boat Launching Facility Improvements	RE	3	25,000	0	0	0	0	25,000
PLANNED	Silver Lake West Campground Improvements	RE	3	0	0	0	35,000	140,000	175,000
PLANNED	Sly Park Recreation Area Facility Improvements	RE	3	25,000	125,000	25,000	25,000	0	200,000
TOTAL:				230,000	245,000	50,000	160,000	240,000	925,000



2024-2028 Capital Improvement Plan General District

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	2024-2028 TOTAL
18044	WAN Upgrade	GD	1	15,000	0	0	0	0	15,000
18055	Hansen 7 Software Replacement	GD	1	2,374,000	0	0	0	0	2,374,000
19027	Windows Server 2016 Upgrade	GD	1	35,000	0	0	0	0	35,000
19028	Datacenter SCADA Segmentation	GD	1	33,000	0	0	0	0	33,000
PLANNED	Arc Flash Risk Assessment Program	GD	1	42,000	0	0	0	47,000	89,000
PLANNED	New Security Systems	GD	1	500,000	515,000	371,000	385,000	400,000	2,171,000
22021	Camino Heights SCADA Upgrade	GD	2	100,000	0	0	0	0	100,000
22044	Remote Site Wireless Deployment	GD	2	22,901	0	0	0	0	22,901
PLANNED	Headquarter Facility Improvements	GD	2	200,000	0	0	0	0	200,000
PLANNED	IT Business Systems Replacement	GD	2	75,000	55,000	275,000	50,000	0	455,000
PLANNED	IT Communication Systems Replacement	GD	2	100,000	175,000	50,000	100,000	100,000	525,000
PLANNED	IT End-User Technology Replacement	GD	2	150,000	325,000	100,000	100,000	0	675,000
PLANNED	IT Network Infrastructure Replacement	GD	2	400,000	237,500	100,000	150,000	100,000	987,500
PLANNED	Security Equipment Reliability Program	GD	2	110,000	100,000	0	0	0	210,000
PLANNED	Vehicle Replacement Program	GD	2	3,050,500	945,000	1,000,000	1,000,000	500,000	6,495,500
PLANNED	Windows 2012 Upgrade	GD	2	0	13,500	64,800	0	0	78,300
22022	Network Perimeter Security Upgrades	GD	3	0	0	32,000	0	0	32,000
PLANNED	SCADA Master Plan Implementation	GD	3	0	200,000	100,000	75,000	0	375,000
Total				7,207,401	2,566,000	2,092,800	1,860,000	1,147,000	14,873,201



**FIVE YEAR
CAPITAL IMPROVEMENT PLAN
2024—2028 PROJECTS**

October 23, 2023

FERC Projects

2024

CAPITAL IMPROVEMENT PLAN

Program:

FERC

Project Number:

06019H

Project Name:

FERC: C35 Oyster Creek

Project Category:

Regulatory Requirements

Priority:

1

PM:

Baron

Board Approval:

Project Description:

Mandatory requirement of the FERC license. The District completed the installation of stabilization measures in Oyster Creek in 2019. Post-project monitoring and maintenance of stabilization measures is required for 5-years following project construction to evaluate performance of stabilization measures.

Basis for Priority:

EID would not be in compliance with Condition 35 of the El Dorado Relicensing Settlement Agreement, USFS 4(e) Condition 35, and SWRCB Water Quality Certification Condition 6 requirements contained in the FERC License.

Project Financial Summary:			
Funded to Date:	\$ 489,950	Expenditures through end of year:	\$ 396,525
Spent to Date:	\$396,525	2024 - 2028 Planned Expenditures:	\$ 30,000
Cash flow through end of year:		Total Project Estimate:	\$ 426,525
Project Balance	\$ 93,425	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Monitoring	\$ 10,000	\$ 10,000				\$ 20,000
Maintenance	\$ 5,000	\$ 5,000				\$ 10,000
TOTAL	\$ 15,000	\$ 15,000	\$ -	\$ -	\$ -	\$ 30,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 06021H
Project Name: FERC C37.8 Water Temperature
Project Category: Regulatory Requirements

Priority: 1 PM: Deason Board Approval:

Project Description:

Mandatory requirement of the FERC license. Funding is necessary to implement an annual water temperature monitoring program at project reservoirs and stream reaches. The data collected from this monitoring effort will be used to determine if the coldwater beneficial uses are being met in designated project reaches.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Sections 7 and 12 of the Settlement Agreement, USFS 4(e) conditions 37 and 42, and SWRCB Water Quality Certification condition 14.

Table with 4 columns: Category, Amount, Description, Amount. Rows include Funded to Date, Spent to Date, Cash flow through end of year, and Project Balance.

Table with 7 columns: Description of Work, 2024, 2025, 2026, 2027, 2028, Total. Rows include Monitoring, Reporting, Staff Time, and a TOTAL row.

Table with 4 columns: Estimated Funding Sources, Percentage, 2024, Amount. Rows include Water Rates and a Total row.

Funding Comments: Water temperature monitoring conducted in coordination with water quality monitoring every three years.

2024

CAPITAL IMPROVEMENT PLAN

Program:

FERC

Project Number:

06025H

Project Name:

FERC: C41 Canal Release Pt

Project Category:

Priority:

1

PM:

Mutschler

Board Approval:

Project Description:

Required by the FERC Project No. 184 license Settlement Agreement and USFS 4(e) Condition 41, which states the District must develop and file for FERC approval a canal drainage structure and release point plan. The licensee shall implement the plan upon approval. The plan has been approved and implementation is underway. An update to the plan is needed in 2024 to include upgrades that have been implemented, identify future upgrades, and evaluate the condition of spillway channels. Future design and construction costs will depend on the scope of activities identified in the updated plan.

Basis for Priority:

This project is required by the Project 184 FERC License and is on-going.

Project Financial Summary:			
Funded to Date:	\$ 50,000	Expenditures through end of year:	\$ 39,271
Spent to Date:	\$ 34,271	2024 - 2028 Planned Expenditures:	\$ 10,000
Cash flow through end of year:	\$ 5,000	Total Project Estimate:	\$ 49,271
Project Balance	\$ 10,729	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning	\$ 10,000					\$ 10,000
Design						\$ -
Construction						\$ -
						\$ -
TOTAL	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 10,000

Funding Sources	Percentage	2024	Amount
Water FCC's	53%		\$0
Water Rates	47%		\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN

Program:

FERC

Project Number:

06076H

Project Name:

FERC C38.4b Caples Spillway Channel Stabilization

Project Category:

Regulatory Requirements

Priority:

1

PM:

Venable

Board Approval:

Project Description:

This Project is a mandatory requirement of the conditions of the FERC license. The District completed the installation of stabilization measures in the spillway channel in 2020. Post-project monitoring and maintenance of stabilization measures is required for 5-years following project construction to evaluate performance of stabilization measures.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 8 of the Settlement Agreement, USFS 4(e) conditions 38.4b, and SWRCB Water Quality Certification condition 5.

Project Financial Summary:			
Funded to Date:	\$ 1,196,857	Expenditures through end of year:	\$ 1,099,295
Spent to Date:	\$ 1,057,295	2024 - 2028 Planned Expenditures:	\$ 45,000
Cash flow through end of year:	\$ 42,000	Total Project Estimate:	\$ 1,144,295
Project Balance	\$ 97,562	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Monitoring	\$ 10,000	\$ 10,000	\$ 10,000			\$ 30,000
Maintenance	\$ 5,000	\$ 5,000	\$ 5,000			\$ 15,000
TOTAL	\$ 15,000	\$ 15,000	\$ 15,000	\$ -	\$ -	\$ 45,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number:

06082H

Project Name:

FERC: C50.1 Silver Lake Campground East Re-Construction

Project Category:

Regulatory Requirements

Priority:

1

PM:

Kelsch

Board Approval:

Project Description:

Required by the License Settlement Agreement and the USFS 4(e) Conditions, the District must reconstruct the paved surfaces, toilets, and water system at the 62-unit USFS Silver Lake Campground, including upgrade of this facility to meet the current FS design standards and the USDA Forest Service Region 5 accessibility standards requirements of the Architectural Barriers Act (ABA). Campground improvements were completed in 2020, with the exception of the installation of a water line from the water source to the campground. The Project involves replacing the existing spring-fed water source, which is located over a mile away, with a new groundwater well within the campground. The new well will provide a more reliable source of water to serve both the Silver Lake East and Silver Lake West campgrounds. The Project will include permitting the new well and installing the new well, a small building to house a tank and equipment, and a new water line to serve both Silver Lake East and Silver Lake West campgrounds.

The well is scheduled to be drilled in fall 2023 and the remainder of the project is anticipated to be bid in fall 2023 and constructed summer 2024. The District received an additional one-year time extension from FERC and the new completion date for the installation of the water system is October 18, 2024.

Basis for Priority:

This project is required to comply with the FERC License Condition No. 50.1 and USFS 4(e) Condition requirements. The District completed the campground work in 2020. The District is requested and received a time extension from FERC to complete the Water System Work in 2024.

Project Financial Summary:			
Funded to Date:	\$ 3,176,332	Expenditures through end of year:	\$ 3,052,231
Spent to Date:	\$ 2,792,231	2024 - 2028 Planned Expenditures:	\$ 1,230,000
Cash flow through end of year:	\$ 260,000	Total Project Estimate:	\$ 4,282,231
Project Balance	\$ 124,101	Additional Funding Required	\$ 1,105,899

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Construction (Water System)	\$ 1,230,000					\$ 1,230,000
TOTAL	\$ 1,230,000	\$ -	\$ -	\$ -	\$ -	\$ 1,230,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$1,105,899
			\$0
Total	100%		\$1,105,899

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN

Program:

FERC

Project Number:

06086H

Project Name:

FERC C33 Lake Aloha Trout Removal

Project Category:

Regulatory Requirements

Priority:

1

PM:

Deason

Board Approval:

Project Description:

Mandatory requirement of the FERC license. Funding only necessary in years when a spill occurs over the auxiliary dams at Lake Aloha. If spill occurs, EID is required to manually remove trout from the pools downstream of the auxiliary dams to help reduce potential impacts to Sierra Nevada yellow-legged frogs by trout predation.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 33, and SWRCB Water Quality Certification condition 4.

Project Financial Summary:			
Funded to Date:	\$ 92,000	Expenditures through end of year:	\$ 70,662
Spent to Date:	\$ 70,662	2024 - 2028 Planned Expenditures:	\$ 20,000
Cash flow through end of year:		Total Project Estimate:	\$ 90,662
Project Balance	\$ 21,338	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Monitoring	\$20,000					\$ 20,000
						\$ -
TOTAL	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ 20,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN

Program:

FERC

Project Number:

06087H

Project Name:

FERC C37.1 Fish Monitoring

Project Category:

Regulatory Requirements

Priority:

1

PM:

Deason

Board Approval:

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate the status of fish populations in selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	\$ 359,200	Expenditures through end of year:	\$ 347,890
Spent to Date:	\$ 347,890	2024 - 2028 Planned Expenditures:	\$ 165,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 512,890
Project Balance	\$ 11,310	Additional Funding Required	\$ 153,690

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Monitoring			\$ 80,000	\$ 55,000		\$ 135,000
Staff time			\$ 15,000	\$ 15,000		\$ 30,000
						\$ -
TOTAL	\$ -	\$ -	\$ 95,000	\$ 70,000	\$ -	\$ 165,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments: Monitoring for hardhead required in 2026; monitoring for rainbow trout required in 2026 and 2027

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 06088H
 Project Name: FERC: C37.2 Macroinvertebrate Monitoring
 Project Category: Regulatory Requirements
 Priority: 1 PM: Deason Board Approval:

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate the status of macroinvertebrates in selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:

Funded to Date:	\$ 279,000	Expenditures through end of year:	\$ 271,209
Spent to Date:	\$ 271,209	2024 - 2028 Planned Expenditures:	\$ 150,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 421,209
Project Balance	\$ 7,791	Additional Funding Required	\$ 142,209

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Monitoring			\$ 70,000	\$ 70,000		\$ 140,000
Staff time			\$ 5,000	\$ 5,000		\$ 10,000
						\$ -
						\$ -
TOTAL	\$ -	\$ -	\$ 75,000	\$ 75,000	\$ -	\$ 150,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 06089H
Project Name: FERC: C37.3 Amphibian Monitoring
Project Category: Regulatory Requirements

Priority: 1 PM: Deason Board Approval:

Project Description:

Mandatory requirement of the FERC license. Amphibian surveys are required June through September if at any time flows in the South Fork of the American River (SFAR) are 100 cfs or less and the diversion into the canal causes the flow in the SFAR to change 50 cfs or more in 1 day. The objective of these surveys is to assess the effects of flow fluctuations on foothill yellow-legged frog egg masses and tadpoles. Amphibian surveys for Sierra Nevada yellow-legged frog (SNYLF) and foothill yellow-legged frog (FYLF) are also required every five years at project reservoirs and stream reaches as part of the El Dorado Hydroelectric Project No. 184 Adaptive Management Program. Amphibian surveys are also required in years when a spill occurs over the auxiliary dams at Lake Aloha. If spill occurs, EID is required to survey for SNYLF in the pools downstream of the auxiliary dams.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:

Table with 4 columns: Category, Amount, Description, Amount. Rows include: Funded to Date (\$403,648), Expenditures through end of year (\$379,974), Spent to Date (\$379,974), 2024 - 2028 Planned Expenditures (\$135,000), Cash flow through end of year (\$-), Total Project Estimate (\$514,974), Project Balance (\$23,674), Additional Funding Required (\$111,326).

Table with 7 columns: Description of Work, 2024, 2025, 2026, 2027, 2028, Total. Rows include: FYLF/SNYLF monitoring (\$100,000), Staff time (\$10,000), SFAR flow fluctuations (\$10,000), Lake Aloha monitoring (\$15,000), TOTAL (\$25,000, \$-, \$110,000, \$-, \$-, \$135,000).

Table with 4 columns: Estimated Funding Sources, Percentage, 2024, Amount. Rows include: Water Rates (100%, \$1,326), \$0, \$0, Total (100%, \$1,326).

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 06090H
 Project Name: FERC: C37.4 Riparian Species Composition
 Project Category: Regulatory Requirements
 Priority: 1 PM: Deason Board Approval:

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate riparian species composition at selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:

Funded to Date:	\$ 60,000	Expenditures through end of year:	\$ 56,657
Spent to Date:	\$ 56,657	2024 - 2028 Planned Expenditures:	\$ 30,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 86,657
Project Balance	\$ 3,343	Additional Funding Required	\$ 26,657

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Monitoring			\$ 25,000			\$ 25,000
Staff time			\$ 5,000			\$ 5,000
						\$ -
						\$ -
TOTAL	\$ -	\$ -	\$ 30,000	\$ -	\$ -	\$ 30,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 06091H
 Project Name: FERC: C37.5 Riparian Vegetation Recruitment
 Project Category: Regulatory Requirements
 Priority: 1 PM: Deason Board Approval:

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate riparian vegetation recruitment at selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:

Funded to Date:	\$ 75,000	Expenditures through end of year:	\$ 58,235
Spent to Date:	\$ 58,235	2024 - 2028 Planned Expenditures:	\$ 30,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 88,235
Project Balance	\$ 16,765	Additional Funding Required	\$ 13,235

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Monitoring			\$ 25,000			\$ 25,000
Staff Time			\$ 5,000			\$ 5,000
						\$ -
						\$ -
TOTAL	\$ -	\$ -	\$ 30,000	\$ -	\$ -	\$ 30,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 06092H
 Project Name: FERC: C37.7 Geomorphology Evaluation
 Project Category: Regulatory Requirements
 Priority: 1 PM: Deason Board Approval:

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to monitor representative stream channel areas for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:

Funded to Date:	\$ 169,266	Expenditures through end of year:	\$ 158,198
Spent to Date:	\$ 158,198	2024 - 2028 Planned Expenditures:	\$ 80,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 238,198
Project Balance	\$ 11,068	Additional Funding Required	\$ 68,932

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Monitoring			\$ 70,000			\$ 70,000
Staff time			\$ 10,000			\$ 10,000
TOTAL	\$ -	\$ -	\$ 80,000	\$ -	\$ -	\$ 80,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 06095H
Project Name: FERC: C54 Visual Resources Management Plan
Project Category: Regulatory Requirements
Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

This project is a requirement of the Article 402 of the Federal Energy Regulatory Commission (FERC) License for Project No. 184, Section 24 of the El Dorado Relicensing Settlement Agreement, and United States Forest Service (USFS) 4(e) Condition 54. These conditions require the District to prepare and implement a Visual Resources Management Plan (VRMP). The purpose of the Visual Resources Management Plan (VRMP) is to guide the decision-making process and facilitate the aesthetic/visual enhancement and management of specific Project No. 184 facilities and lands affecting the visual character of the Project No. 184 area. The current VRMP was approved in 2008 and is due to be reviewed and updated. Funding will be for professional services and staff time to update the plan and coordinate review and approval of the updated VRMP with the USFS and FERC.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license and USFS 4(e) condition 54.

Project Financial Summary:			
Funded to Date:	\$ 55,381	Expenditures through end of year:	\$ -
Spent to Date:	\$ 40,381	2024 - 2028 Planned Expenditures:	\$ 5,000
Cash flow through end of year:	\$ 10,000	Total Project Estimate:	\$ 5,000
Project Balance	\$ 5,000	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning	\$ 5,000					\$ 5,000
						\$ -
TOTAL	\$ 5,000	\$ -	\$ -	\$ -	\$ -	\$ 5,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 06096H
Project Name: FERC: C55 Heritage Resources
Project Category: Regulatory Requirements

Priority: 1 PM: Deason Board Approval:

Project Description:

Mandatory requirement of the FERC license. Funding is necessary to complete and implement the Heritage Properties Management Plan (HPMP). The HPMP provides management protocols and mitigation measures for the ongoing protection of archaeological resources located within the FERC boundary.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license and USFS 4(e) conditions 55 and 56.

Project Financial Summary:

Table with 4 columns: Category, Amount, Description, Amount. Rows include: Funded to Date (\$279,580), Expenditures through end of year (\$212,841), Spent to Date (\$212,841), 2024 - 2028 Planned Expenditures (\$60,000), Cash flow through end of year (\$-), Total Project Estimate (\$272,841), Project Balance (\$66,739), Additional Funding Required (\$-).

Table with 7 columns: Description of Work, 2024, 2025, 2026, 2027, 2028, Total. Rows include: Monitoring (\$50,000.00), Staff Time (\$10,000.00), and a TOTAL row (\$60,000.00).

Table with 4 columns: Estimated Funding Sources, Percentage, 2024, Amount. Rows include: Water Rates (100%, \$0), and a Total row (100%, \$0).

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 06097H
 Project Name: FERC: C59 Facility Management Plan
 Project Category: Regulatory Requirements
 Priority: 1 PM: Mutschler Board Approval:

Project Description:

Required by the License Settlement Agreement, and the USFS 4(e) Condition 59: Within 1 year of license issuance, the licensee shall file with FERC a Facility Management Plan that is approved by the FS. The licensee shall implement the plan upon approval. Every 5 years, the licensee shall prepare a 5-year plan that will identify the maintenance, reconstruction, and removal needs for Project facilities within the FERC boundary and located on Forest Service property. The plan was approved by the USFS and filed with FERC. The plan is due to be reviewed and updated. Future costs are subject to change based on the scope of the new plan. Items remaining to be evaluated include the following: winch house at the surge chamber and the water tank shed along the penstock.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license and USFS 4(e) condition 59.

Project Financial Summary:			
Funded to Date:	\$ 70,000	Expenditures through end of year:	\$ 54,197
Spent to Date:	\$ 49,197	2024 - 2028 Planned Expenditures:	\$ 10,000
Cash flow through end of year:	\$ 5,000	Total Project Estimate:	\$ 64,197
Project Balance	\$ 15,803	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning	\$ 10,000					\$ 10,000
						\$ -
TOTAL	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 10,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: 06098H
Project Name: FERC: C46 thru C49 Recreation Resource Management
Project Category: Regulatory Requirements
Priority: 1 **PM:** Bertram **Board Approval:**

Project Description:

Required by the new FERC License, Settlement Agreement, and the USFS 4(e) Conditions. Conditions 46-49: Condition No. 46 – Implementation Plan. A recreation implementation plan shall be developed by the licensee in coordination with the FS within 6 months of license issuance. Condition No. 47 - Recreation Survey. The licensee shall conduct a Recreational Survey and prepare a Report on Recreational Resources that is approved by the FS every 6 years from the date of license issuance. Condition No. 48 – Forest Service Liaison. The FS and the licensee shall each provide an individual for liaison whenever planning or construction of recreation facilities, other major Project improvements, and maintenance activities are taking place within the National Forest. Condition No. 49 - Review of Recreation Developments. The FS and the licensee shall meet at least every 6 years to review all recreation facilities and areas associated with the Project and to agree upon necessary maintenance, rehabilitation, construction, and reconstruction work needed and its timing, as described in Conditions No. 49 and 50. Following the review, the licensee shall develop a 6-year schedule for maintenance, rehabilitation, and reconstruction.

This is a mandatory requirement of the October 18, 2006 FERC Order Issuing New License

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:			
Funded to Date:	\$ 384,000	Expenditures through end of year:	\$ 335,428
Spent to Date:	\$ 305,428	2024 - 2028 Planned Expenditures:	\$ 10,000
Cash flow through end of year:	\$ 30,000	Total Project Estimate:	\$ 345,428
Project Balance	\$ 48,572	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Survey						\$ -
Reporting	\$ 10,000					\$ 10,000
TOTAL	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 10,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 07003H
Project Name: FERC: C37.9 Water Quality
Project Category: Regulatory Requirements

Priority: 1 PM: Deason Board Approval:

Project Description:

Mandatory requirement of the FERC license. Funding is necessary to implement the water quality monitoring program at Project No. 184 reservoirs and stream reaches. The data collected from this monitoring effort will be used to characterize water quality under current project operations and help determine if applicable water quality objectives/criteria are being met and whether designated beneficial uses are protected.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Table with 4 columns: Category, Amount, Description, Amount. Rows include Funded to Date, Spent to Date, Cash flow through end of year, and Project Balance.

Table with 7 columns: Description of Work, 2024, 2025, 2026, 2027, 2028, Total. Rows include Monitoring, Lab analysis, Staff time, and a TOTAL row.

Table with 4 columns: Estimated Funding Sources, Percentage, 2024, Amount. Rows include Water Rates and a Total row.

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 07005H
Project Name: FERC: C51.3 RM Echo Trailhead
Project Category: Regulatory Requirements

Priority: 1 PM: Bertram Board Approval:

Project Description:

Required by the FERC License, Settlement Agreement, and the USFS 4(e) Condition 51.3, which requires the District to provide funding for the following activities at Echo Lakes Trailhead:

- a. Toilet pumping
b. Trash removal/litter pick-up within the site

Funding under this CIP is required to cover the costs of toilet pumping as well as capitalized labor for operations staff to clean up litter within the site.

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Table with 4 columns: Category, Amount, Description, Amount. Rows include Funded to Date, Spent to Date, Cash flow through end of year, and Project Balance.

Table with 7 columns: Description of Work, 2024, 2025, 2026, 2027, 2028, Total. Rows include Services, Staff time, and TOTAL.

Table with 4 columns: Estimated Funding Sources, Percentage, 2024, Amount. Rows include Water Rates and Total.

Funding Comments:

Project Number: 07006H
Project Name: FERC: C51.5 and C51.7 RM USFS Payments
Project Category: Regulatory Requirements
Priority: 1 **PM:** Bertram **Board Approval:**

Project Description:

Required by the FERC License, Settlement Agreement, and USFS 4(e) Condition 51, which in part, requires the District to provide funding for the following activities:

a. Special Use Administration Funding: The licensee shall annually pay, by October 1, the amount of \$4,800 (year 2002 cost basis) to provide for performing monitoring and permit compliance assurance for the campground concessionaire special use permits at Caples Lake Campground and Silver Lake East Campground. The costs shall be escalated based on the U.S. Gross Domestic Product – Implicit Price Deflator (GDP-IDP).

b. Dispersed Area Patrol Funding on Lands Affected by the Project: The licensee shall annually pay, by October 1, \$25,000 (year 2002 cost basis). The cost shall be escalated based on the U.S. Gross Domestic Product – Implicit Price Deflator (GDP-IDP). These funds are to provide for patrol and operation of non-concessionaire developed and dispersed recreation facilities, as well as trails and other locations utilized by visitors to the Project, within and adjacent to the Project boundary. The licensee shall annually provide a boat and operator on Caples Lake and Silver Lake at least twice each season (time to be determined by mutual agreement between the licensee and the FS) to assist the FS in policing the shoreline along Silver Lake and Caples Lake, and to clean up litter.

Funding under this CIP is required to pay the annual fees to the USFS for special use administration and dispersed area patrol on USFS lands affected by the Project, and for capitalized labor to patrol the shoreline and clean up litter at Silver Lake and Caples Lake.

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:			
Funded to Date:	\$ 722,421	Expenditures through end of year:	\$ 717,762
Spent to Date:	\$ 662,762	2024 - 2028 Planned Expenditures:	\$ 281,030
Cash flow through end of year:	\$ 55,000	Total Project Estimate:	\$ 998,793
Project Balance	\$ 4,659	Additional Funding Required	\$ 276,372

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Fees	\$49,195	\$50,671	\$52,191	\$53,682	\$55,292	\$261,030
Staff time	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$20,000
TOTAL	\$ 53,195	\$ 54,671	\$ 56,191	\$ 57,682	\$ 59,292	\$281,030

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$48,536
			\$0
			\$0
Total	100%		\$48,536

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 07010H
Project Name: FERC: C15 Pesticide Use
Project Category: Regulatory Requirements

Priority: 1 PM: M. Heape Board Approval:

Project Description:

Mandatory requirement of the FERC license. Funding is requested to implement the integrated pest management plan (IPMP). The IPMP addresses pesticide use at EID facilities within the jurisdiction of the El Dorado National Forest (ENF) and Lake Tahoe Basin Management Unit (LTBMU).

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license and USFS 4(e) condition 15.

Project Financial Summary:

Table with 4 columns: Category, Amount, Description, Amount. Rows include: Funded to Date (\$998,000), Expenditures through end of year (\$986,694), Spent to Date (\$906,694), 2024 - 2028 Planned Expenditures (\$400,000), Cash flow through end of year (\$80,000), Total Project Estimate (\$1,386,694), Project Balance (\$11,306), Additional Funding Required (\$388,694).

Table with 7 columns: Description of Work, 2024, 2025, 2026, 2027, 2028, Total. Rows include: Implementation (\$65,000), Equipment / Supplies (\$15,000), and a TOTAL row (\$80,000).

Table with 4 columns: Estimated Funding Sources, Percentage, 2024, Amount. Rows include: Water Rates (100%, \$68,694), and a Total row (100%, \$68,694).

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 07011H
 Project Name: FERC: C38 Adaptive Management Program
 Project Category: Regulatory Requirements
 Priority: 1 PM: Deason Board Approval:

Project Description:

Mandatory requirement of the FERC license. Funding is for staff time to implement the adaptive management program (Condition 38) of the FERC license. This program requires coordination with the Ecological Resources Committee (ERC), implementation of the resource monitoring program, and evaluation of monitoring results to determine if resource objectives are achievable and being met.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 14 of the Settlement Agreement, and USFS 4(e) condition 38.

Project Financial Summary:

Funded to Date:	\$ 727,000	Expenditures through end of year:	\$ 714,657
Spent to Date:	\$ 694,657	2024 - 2028 Planned Expenditures:	\$ 250,000
Cash flow through end of year:	\$ 20,000	Total Project Estimate:	\$ 964,657
Project Balance	\$ 12,343	Additional Funding Required	\$ 237,657

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Staff time	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$ 250,000
						\$ -
TOTAL	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 250,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$37,657
			\$0
			\$0
Total	100%		\$37,657

Funding Comments:

Project Number: 07030H
Project Name: FERC: C57 Transportation System Management Plan
Project Category: Regulatory Requirements
Priority: 1 **PM:** Mutschler **Board Approval:**

Project Description:

Condition 57 states within 1 year of license issuance, the licensee shall file with FERC a transportation system management plan that is approved by the FS for roads on or affecting National Forest System lands. The plan was prepared and approved and established the level of licensee responsibility for project-related roads. Also included in this CIP is the Trails Maintenance Plan. The plan is due to be reviewed and updated. Plan updates include consultation with the Forest Service. Future costs are subject to change based on the scope of the new plan.

Projects are for stabilizing the numerous access roads to the Project 184 system. Projects will be to repair and refurbish existing roads that are part of the Transportation System Management Plan that we have with the US Forest Service. Roads to be worked on include:

- Powerhouse Road - 3.5 Miles - 2024
- Camp 2 Road - 1 Mile, Five Beat Access Roads - 2 Miles - 2025
- Camp 1 Road - 2 Miles - 2026
- Flume 4-6 Access Road - 3 miles - 2027

Work will include replacing missing rock and treating the road with SoilTech mixture to prevent dust and erosion

Basis for Priority:

Project is required by Project 184 license and is on-going.

Project Financial Summary:			
Funded to Date:	\$ 105,000	Expenditures through end of year:	\$ 82,934
Spent to Date:	\$ 77,934	2024 - 2028 Planned Expenditures:	\$ 1,480,000
Cash flow through end of year:	\$ 5,000	Total Project Estimate:	\$ 1,562,934
Project Balance	\$ 22,066	Additional Funding Required	\$ 1,457,934

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Update Plan	\$ 10,000					\$ 10,000
Construction	\$ 390,000	\$ 400,000	\$ 250,000	\$ 400,000	\$ 30,000	\$ 1,470,000
TOTAL	\$ 400,000	\$ 400,000	\$ 250,000	\$ 400,000	\$ 30,000	\$ 1,480,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$377,934
			\$0
			\$0
Total	100%		\$377,934

Funding Comments:

Project Number: 08025H
Project Name: FERC C44 Noxious Weed Monitoring
Project Category: Regulatory Requirements
Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. Funding is requested to implement the noxious weed plan for the prevention and control of noxious weeds at Project No. 184 facilities. The plan requires annual surveys within the Project No. 184 boundary in areas where high priority noxious weeds are known to occur and in areas where ground disturbance occurred during the previous year. The plan also calls for surveys to be conducted every 5 years within the entire Project No. 184 boundary.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 8 of the Settlement Agreement, and USFS 4(e) condition 44.

Project Financial Summary:

Funded to Date:	\$ 347,342	Expenditures through end of year:	\$ 331,727
Spent to Date:	\$ 324,727	2024 - 2028 Planned Expenditures:	\$ 165,000
Cash flow through end of year:	\$ 7,000	Total Project Estimate:	\$ 496,727
Project Balance	\$ 15,615	Additional Funding Required	\$ 149,385

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Implementation	\$ 25,000	\$ 25,000	\$ 40,000	\$ 25,000	\$ 25,000	\$ 140,000
Reporting	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 25,000
						\$ -
						\$ -
TOTAL	\$ 30,000	\$ 30,000	\$ 45,000	\$ 30,000	\$ 30,000	\$ 165,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$14,385
			\$0
			\$0
Total	100%		\$14,385

Funding Comments: Annual

2024

CAPITAL IMPROVEMENT PLAN Program:

FERC

Project Number: 10007
Project Name: FERC C51.1 and 51.2 RM Caples Auxiliary Dam and Boat Launch
Project Category: Regulatory Requirements
Priority: 1 **PM:** Bertram **Board Approval:**

Project Description:

Required by the FERC License, Settlement Agreement, and the USFS 4(e) Condition 51, which, in part, requires the District to provide funding for the following activities:

1. The licensee shall be responsible for one-half of the following maintenance at the Caples Lake Auxiliary Dam Parking Area: a) routine cleaning, repair, and maintenance of all constructed features, b) toilet pumping, c) trash removal/litter pick up at the site, d) maintenance of the signboards, and e) vegetation management.
2. The licensee shall be responsible for operating and maintaining the boat launching ramp, associated parking lot, and other public facilities constructed at this site for the term of the license. The licensee shall also be responsible for maintenance of signboards. The USFS shall be responsible for maintaining the information on those signboards to USFS standards.

Funding under this CIP is required to pay for services, capitalized labor, and materials necessary for operations and maintenance activities at the Caples Lake Auxiliary Dam parking area and at the Caples Lake Boat Launch.

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:

Funded to Date:	\$ 304,000	Expenditures through end of year:	\$ 264,472
Spent to Date:	\$ 264,472	2024 - 2028 Planned Expenditures:	\$ 200,000
Cash flow through end of year:		Total Project Estimate:	\$ 464,472
Project Balance	\$ 39,528	Additional Funding Required	\$ 160,472

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Services	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$ 125,000
Staff time	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 50,000
Materials	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 25,000
Construction						\$ -
TOTAL	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 200,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$472
			\$0
			\$0
Total	100%		\$472

Funding Comments:

Water Projects

Project Number: 16003
Project Name: Permit 21112 Change in Point of Diversion
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Leeper **Board Approval:**

Project Description:

The District's existing Water Right Permit 21112 allows for water diversion at Folsom Reservoir for consumptives uses. Long-term water supply planning forecasts indicate that a portion of the Permit 21112 water supply will be necessary to serve areas of the District that are east of El Dorado Hills and at a higher elevation. The District seeks to modify Permit 21112 to add an authorized point of diversion and re-diversion to more effectively and efficiently meet the future water demands. The District seeks to add a point of diversion that allows both direct diversion from the South Fork of the American River, as well as re-diversion of this water to storage in Jenkinson Lake. The additional point of diversion is proposed at the District's existing El Dorado Diversion Dam near Kyburz. In addition, the District's seeks to add Jenkinson Lake as an authorized point of re-diversion and an authorized place of storage for Permit 21112 water. Water diverted at the El Dorado Diversion Dam can be conveyed to Jenkinson Lake via the Hazel Creek Tunnel. To take all or any portion of Permit 21112 water upstream of Folsom Reservoir at a new diversion location, EID must successfully petition the State Water Resources Control Board (SWRCB) for water right permit changes to add points of diversion and rediversion and a new place of storage. This project requires extensive hydrologic modeling to support the petition process and environmental review. The SWRCB Change Petition process encompasses preparation of the Petition (including preliminary engineering, hydrologic, and biological analyses, mapping, legal review, and preliminary meetings with SWRCB staff, California Department of Fish & Wildlife staff, and other stakeholders); California Environmental Quality Act (CEQA) compliance through preparation of an environmental impact report; processing of the Petition and any protests by the SWRCB; and potentially evidentiary hearings before the SWRCB if protests are filed against the Petition and cannot be resolved through stakeholder negotiations. The planned annual expenditures reflect a timeline for CEQA compliance and Petition processing in 2024-2026. The estimated expenditures related to the Petition processing and potential SWRCB hearing proceedings are estimates only, and actual expenditures will be highly dependent on the technical and legal support necessary to advance the Petition. Any post-SWRCB hearing proceedings, including potential administrative appeals and/or litigation would require additional funding.

Basis for Priority:

This project provides measurable progress toward achieving the District's goals, including helping to meet future water demand as identified in long-term water supply planning efforts, reducing the cost of water conveyance and delivery through gravity flow, increasing flexibility and reliability in water delivery systems to benefit the District's entire service area, improving drought resiliency, maintaining compliance with regulatory and legal obligations regarding water operations, and optimizing existing water rights.

Project Financial Summary:			
Funded to Date:	\$ 1,534,439	Expenditures through end of year:	\$ 1,410,231
Spent to Date:	\$ 1,140,231	2024 - 2028 Planned Expenditures:	\$ 575,000
Cash flow through end of year:	\$270,000	Total Project Estimate:	\$ 1,985,231
Project Balance	\$ 124,208	Additional Funding Required	\$ 450,792

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Modeling	\$ 50,000					\$ 50,000
CEQA/Environmental	\$ 125,000					\$ 125,000
Petition Processing	\$ 100,000	\$ 100,000				\$ 200,000
SWRCB Hearing		\$ 100,000	\$ 100,000			\$ 200,000
TOTAL	\$ 275,000	\$ 200,000	\$ 100,000	\$ -	\$ -	\$ 575,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$150,792
Total	100%		\$150,792

Funding Comments:

Project Number: 17011
Project Name: Crestview Pump Station Replacement Project
Project Category: Reliability & Service Level Improvements
Priority: 1 **PM:** Kelsch **Board Approval:**

Project Description:

The District has numerous distribution pump stations throughout the water service area that operate to increase pressures to customers at higher elevations. The District has an annual program to replace, rehabilitate or upgrade pump stations that have reached the end of their service life. Engineering and O&M staff identify and prioritize pump stations in need of upgrades to ensure reliable supply of the necessary pressure and flow to their respective service areas, and to comply with fire flow requirements and incorporate emergency standby power where needed. Replacement components include pumps, hydropneumatic tanks, electrical control, valves, yard piping, SCADA equipment, and buildings to accommodate equipment.

The Crestview Pump Station is in need of replacement due to maintenance issues with an existing buried pneumatic tank, which cannot be certified for the operating pressure due to the inability to examine the entire structure. This is a safety issue for the District as we cannot certify the existing tank for service. The existing single pump is also located within a confined space and is a potential maintenance hazard. Without the benefit of a second pump, 25 customers are taken out of water for any regular maintenance. Additionally, the station air compressors have failed due to being underground causing the pipeline to become air locked and causing various leaks on the distribution piping.

Basis for Priority:

Potential interruption to service throughout the District in the event of failures and continued use of expiring equipment that may pose a threat to the health and safety of customers, employees, and the public.

Project Financial Summary:			
Funded to Date:	\$ 150,000	Expenditures through end of year:	\$ 109,889
Spent to Date:	\$ 29,889	2024 - 2028 Planned Expenditures:	\$ 775,000
Cash flow through end of year:	\$ 80,000	Total Project Estimate:	\$ 884,889
Project Balance	\$ 40,111	Additional Funding Required	\$ 734,889

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Capitalized Labor (Project Management & Inspection)	\$ 75,000					\$ 75,000
Construction	\$ 700,000					\$ 700,000
TOTAL	\$ 775,000	\$ -	\$ -	\$ -	\$ -	\$ 775,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$734,889
Total	100%		\$734,889

Funding Comments:

Project Number: 17035
Project Name: Green Valley Bridge Relocation
Project Category: State/County Road Projects
Priority: 1 **PM:** Carrington **Board Approval:**

Project Description:

El Dorado County plans to construct two new bridges on Green Valley Road; one at Mound Springs Creek and one at Indian Creek. The District has existing waterlines and two pressure reducing stations (Green Valley PRS #1 and Greenstone PRS #1) on Green Valley Road that will be impacted by the project and require relocation at District cost as they are located in the public right of way. Based on the County's current design, approximately 1,200 feet of 8 and 12-inch waterline will need to be relocated along with both pressure reducing stations. The relocation work needs to be completed in advance of the County's project as the District is in conflict with the new bridge abutments and road realignment. The District has pre-purchased all necessary pressure reducing valves, isolation valves, fittings, for both pressure reducing stations, and is working to complete the relocation design to be bid once the County has completed their right of way acquisition. The County plans to have right of way acquisition complete by the end of 2023. The project has been in the works for several years and dependent on County schedule.

Basis for Priority:

The District has facilities that are in the public right of way that will be impacted by the planned projects. The relocation must be done at the District's cost to make way for the County's project.

Project Financial Summary:

Funded to Date:	\$ 165,000	Expenditures through end of year:	\$ 139,188
Spent to Date:	\$ 114,188	2024 - 2028 Planned Expenditures:	\$ 700,000
Cash flow through end of year:	\$ 25,000	Total Project Estimate:	\$ 839,188
Project Balance	\$ 25,812	Additional Funding Required	\$ 674,188

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Capitalized Labor (Inspection & Project Management)			\$ 50,000			\$ 50,000
Construction			\$ 650,000			\$ 650,000
TOTAL	\$ -	\$ -	\$ 700,000	\$ -	\$ -	\$ 700,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: 19050
 Project Name: Construction Storage Facility
 Project Category: Reliability & Service Level Improvements
 Priority: 3 PM: Delongchamp Board Approval:

Project Description:

This project will evaluate a new storage facility in the EID upper yard to house material and equipment for increased security and protection from elements.

Basis for Priority:

Improve efficiency and provide safe and adequate storage.

Project Financial Summary:

Funded to Date:	\$ 50,000	Expenditures through end of year:	\$ 45,135
Spent to Date:	\$ 25,135	2024 - 2028 Planned Expenditures:	\$ 300,000
Cash flow through end of year:	\$ 20,000	Total Project Estimate:	\$ 345,135
Project Balance	\$ 4,865	Additional Funding Required	\$ 295,135

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design/Permitting	\$ 75,000	\$ 225,000				\$ 300,000
Construction						\$ -
TOTAL	\$ 75,000	\$ 225,000	\$ -	\$ -	\$ -	\$ 300,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$70,135
Total	100%		\$70,135

Funding Comments:

Project Number: 20030
Project Name: Drop Off Road Waterline Extension
Project Category: Reliability & Service Level Improvements
Priority: 1 **PM:** Delongchamp **Board Approval:**

Project Description:

This project will include the installation of approximately 1,100 linear feet of 8" ductile iron pipe (DIP) to connect existing 8" DIP on Drop Off Road with existing 6" PVC pipe on Dogwood Lane in Pollock Pines. Installation of this new waterline will allow for the abandonment of 1,300 feet of existing substandard steel waterline, a portion of which crosses over the existing Main Ditch just downstream from the Forebay Outlet. This project will also include the installation of one Pressure Reducing Station. This project was combined with the Forebay Road Waterline Replacement Project and approved for construction. The Forebay Road portion of the project will be complete in 2023, and the Drop Off Work will be complete in 2024.

Basis for Priority:

Continuous line breaks affect water quality and supply reliability to customers and increases maintenance costs.

Project Financial Summary:			
Funded to Date:	\$ 1,408,963	Expenditures through end of year:	\$ 127,967
Spent to Date:	\$ 57,967	2024 - 2028 Planned Expenditures:	\$ 1,100,000
Cash flow through end of year:	\$ 70,000	Total Project Estimate:	\$ 1,227,967
Project Balance	\$ 1,280,997	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Construction	\$ 1,000,000					\$ 1,000,000
Construction Inspection	\$ 60,000					\$ 60,000
Capitalized Labor	\$ 40,000					\$ 40,000
TOTAL	\$ 1,100,000	\$ -	\$ -	\$ -	\$ -	\$ 1,100,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
Total	100%		\$0

Funding Comments: The Project does not increase capacity so it is funded with water rates.

Project Number: 21015
Project Name: Swansboro Pump Station Replacement Project
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Mackay **Board Approval:**

Project Description:

The District has numerous distribution pump stations throughout the water service area that operate to increase pressures to customers at higher elevations. The District has an annual program to replace, rehabilitate or upgrade pump stations that have reached the end of their service life. Engineering and O&M staff identify and prioritize pump stations in need of upgrades to ensure reliable supply of the necessary pressure and flow to their respective service areas, and to comply with fire flow requirements and incorporate emergency standby power where needed. Replacement components include pumps, hydropneumatic tanks, electrical control, valves, yard piping, SCADA equipment, and buildings to accommodate equipment.

The current Swansboro Pump Station is at the end of its useful life as the pumps are approximately 45 years old and parts are no longer available. Currently pump number 2 is nearing a complete bearing failure and must be replaced. The pneumatic tank for the station has also reached the end of its useful life and has welded patches from previous repairs. This work would include removing the existing tank and install new pumps, above and below ground plumbing upgrade, and upgrade the SCADA panel.

Basis for Priority:

Replacement of assets to improve reliability and avoid interruption to service throughout the District in the event of failures.

Project Financial Summary:

Funded to Date:	\$ 91,000	Expenditures through end of year:	\$ 92,164
Spent to Date:	\$ 67,164	2024 - 2028 Planned Expenditures:	\$ 50,000
Cash flow through end of year:	\$ 25,000	Total Project Estimate:	\$ 142,164
Project Balance	\$ (1,164)	Additional Funding Required	\$ 51,164

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Design		\$ 50,000				\$ 50,000
Environmental						\$ -
Construction						\$ -
TOTAL	\$ -	\$ 50,000	\$ -	\$ -	\$ -	\$ 50,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$1,164
Total	100%		\$1,164

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: 21040
 Project Name: Water Facility Generators - FEMA Grant
 Project Category: Reliability & Service Level Improvements
 Priority: 1 PM: Kelsch Board Approval:

Project Description:

The District applied for and was granted Hazard Mitigation Grant Program (HMGP) funding through the Federal Emergency Management Agency (FEMA) to provide a federal cost share for emergency backup generator installations at fifteen remote District facilities. Included in the application is generators for eight water pump stations. This project will provide local agency funding as required by the HMGP grant.

Basis for Priority:

The project will provide continual power of eight water pump stations during utility power outages. Grant timeline requires project completion by September 2022.

Project Financial Summary:

Funded to Date:	\$ 306,348	Expenditures through end of year:	\$ 264,307
Spent to Date:	\$ 214,307	2024 - 2028 Planned Expenditures:	\$ 500,000
Cash flow through end of year:	\$ 50,000	Total Project Estimate:	\$ 764,307
Project Balance	\$ 42,041	Additional Funding Required	\$ 457,959

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Construction	\$ 2,250,000					\$ 2,250,000
FEMA Funding	\$ (1,750,000)					\$ (1,750,000)
TOTAL	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ 500,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$457,959
			\$0
			\$0
Total	100%		\$457,959

Funding Comments:

Project Number: 21079
Project Name: Sly Park Intertie Improvements
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

The Sly Park Intertie is a key component of supply reliability in times of drought and during emergencies. In service it provides water delivery flexibility between Reservoir A WTP and Reservoir 1 WTP. The Intertie includes approximately 3.5 miles of 22" and 30" steel waterline built under emergency conditions just after the 1976-77 drought. The unlined pipeline has corroded significantly due to lack of cathodic protection and due to the volume of leaks it was taken out of service. The Sly Park Intertie improvements were identified as a supply reliability project in the 2013 Integrated Water Resources Master Plan. Previous engineering reports from the mid 1990's and in 2006 explored the possibility of rehabilitating the pipeline with a non-structural liner. However, a 2020 study found that the wall loss was too significant to be cost effective to install a liner and thus explored a complete removal and replacement. The 2020 study includes analysis of changed operations that could reduce pumping head up to 180 feet by pumping water from Reservoir A to Reservoir 1 during annual Forebay outages with a new pump station placed at the outlet of Reservoir A, rehabilitation options, direct replacement alternatives analysis, and a financial analysis. The ability to move water between Reservoir 1 and Reservoir A will also allow for a long overdue inspection of the 60 year old Camino Conduit between Jenkinson Reservoir and Reservoir A WTP, additionally it will provide time for the rehabilitation of valves within the dam that are in need of service or replacement, and provide a longer window for scheduled Reservoir A WTP maintenance. The estimated pipeline construction project cost at this time is \$28 million for an open cut replacement based on the 2020 Draft Evaluation of Rehabilitation Alternatives Technical Memorandum. Cost estimates are based on a 10% design level of confidence and include a 30% construction contingency. Typical contingencies for 10% design level cost estimates range between 30% and 100%. The contingency used for this cost estimate is at the low end of the range and higher actual costs are likely. Staff will continue to pursue any grant funding that may become available.

Basis for Priority:

Replacement of the pipeline and installation of a new pump station will ensuring water supply flexibility/reliability between the two major gravity supply sources that provide two thirds of the District's water supply.

Project Financial Summary:

Funded to Date:	\$ 2,721,464	Expenditures through end of year:	\$ 1,606,383
Spent to Date:	\$ 1,106,383	2024 - 2028 Planned Expenditures:	\$ 20,900,000
Cash flow through end of year:	\$ 500,000	Total Project Estimate:	\$ 22,506,383
Project Balance	\$ 1,115,082	Additional Funding Required	\$ 19,784,918

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$300,000	\$ 300,000				\$ 600,000
Environmental	\$ 100,000	\$ 100,000				\$ 200,000
Right of Way	\$ 100,000					\$ 100,000
Construction	\$ 15,000,000	\$ 15,000,000				\$ 30,000,000
Grant Offset	\$ (5,000,000)	\$ (5,000,000)				\$ (10,000,000)
TOTAL	\$ 10,500,000	\$ 10,400,000	\$ -	\$ -	\$ -	\$ 20,900,000

Estimated Funding Sources	Percentage	2024	Amount
Bond	100%	\$	9,384,918
Total	100%	\$	9,384,918

Funding Comments:

Project Number: 22019
Project Name: Pleasant Oak Main Pressure Reducing Station #2 Upgrade
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Delongchamp **Board Approval:**

Project Description:

The current Pleasant Oak Main Pressure Reducing Station #2 (POM PRS #2) is due for replacement because of maintenance issues as the valves have outlived their useful lives. The valves that are currently in use received an emergency rebuild in the spring of 2020 and at that time it was determined that they would not accept another rebuild. The POM PRS #2 is an important pressure reducing station as the only feed to the District's Reservoir C site. From the Reservoir C site the Pleasant Oak Main transmission line, in conjunction with other transmission and distribution lines, provides water to the communities of Diamond Springs, Placerville, Cameron Park, and El Dorado Hills. Purchase of valves was completed in 2022 and construction is currently scheduled for the Winter of 2024-2025.

Basis for Priority:

Potential interruption to service throughout the District in the event of failures and continued use of expiring equipment that may pose a threat to the health and safety of customers, employees, and the public.

Project Financial Summary:

Funded to Date:	\$ 390,484	Expenditures through end of year:	\$ 381,102
Spent to Date:	\$ 6,102	2024 - 2028 Planned Expenditures:	\$ 425,000
Cash flow through end of year:	\$ 375,000	Total Project Estimate:	\$ 806,102
Project Balance	\$ 9,382	Additional Funding Required	\$ 415,618

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 75,000					\$ 75,000
Construction	\$ 100,000	\$ 250,000				\$ 350,000
TOTAL	\$ 175,000	\$ 250,000	\$ -	\$ -	\$ -	\$ 425,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$165,618
Total	100%		\$165,618

Funding Comments:

Project Number: 22038
Project Name: Reservoir A Filter Valve Replacements
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Eden-Bishop **Board Approval:**

Project Description:

The existing filter inlet valves (twelve in total) at Reservoir A Water Treatment Plant (Res A WTP) have reached the end of their service life and are located in a configuration that can't be safely accessed for ongoing maintenance. This project will replace the filter inlet valves and their associated piping with new AWWA compliant valves and electric operators. The valves were identified in the recently completed Draft WTP Asset Management Plan as critical infrastructure, categorized as "Very High Risk", requiring immediate replacement. The replacement of all valves is scheduled for between November 2023 through April 2024.

Basis for Priority:

If an inlet valve fails, it has the potential to remove all four adjacent filter cells, or one third of the plant capacity, from service. This would reduce the capacity of Reservoir A well below required summer demands. Access to the existing valves also poses a significant safety hazard for District personnel. The project was identified in the Draft Water Treatment Plant Asset Management Plan as a high priority 2023 renewal and replacement project due to its age, condition and "High" risk category score.

Project Financial Summary:

Funded to Date:	\$ 349,280	Expenditures through end of year:	\$ 749,540
Spent to Date:	\$ 99,692	2024 - 2028 Planned Expenditures:	\$ 1,432,917
Cash flow through end of year:	\$ 649,848	Total Project Estimate:	\$ 2,182,457
Project Balance	\$ (400,260)	Additional Funding Required	\$ 1,833,177

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design services during construction	\$ 12,500					\$ 12,500
Construction management and Inspection	\$ 47,750					\$ 47,750
Construction	\$ 1,360,167					\$ 1,360,167
Capitalized labor	\$ 12,500					\$ 12,500
TOTAL	\$ 1,432,917	\$ -	\$ -	\$ -	\$ -	\$ 1,432,917

Funding Sources	Percentage	2024	Amount
Water FCC	100%		\$1,833,177
Total	100%		\$1,833,177

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: 23001
Project Name: AMR and Small Meter Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** P. Heape **Board Approval:**

Project Description:

This project replaces old, inaccurate, or broken meters and adds automated meter read capability to existing meters enabling reading of all meters in time for billing. It also includes the targeted replacement of all remaining 5/8" meters in our system. The project decreases labor expenses associated with manually reading meters and inputting the data into the computer system. It also avoids loss of confidence due to inaccurate or estimated reads. Continued implementation of meter replacement and AMR technology keeps the District in compliance with AB 3206 and all provisions of 23 CCR § 700. As of September 1, 2023 there are 33,234 meters that are equipped with radio read devices. Project funding allows the installation of approximately 250 radio read meters per year.

Basis for Priority:

Inaccurate or broken meters reduce revenue received by the District and prevent us from knowing the true amount of non-revenue water, potentially affecting the District's decision making processes.

Project Financial Summary:			
Funded to Date:	\$ 300,000	Expenditures through end of year:	\$ 300,000
Spent to Date:	\$160,455	2024 - 2028 Planned Expenditures:	\$ 1,945,000
Cash flow through end of year:	\$ 139,545	Total Project Estimate:	\$ 2,245,000
Project Balance	\$ -	Additional Funding Required	\$ 1,945,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Implementation	\$325,000	\$325,000	\$350,000	\$350,000	\$350,000	\$ 1,700,000
Capitalized Labor	\$35,000	\$35,000	\$50,000	\$50,000	\$75,000	\$ 245,000
TOTAL	\$ 360,000	\$ 360,000	\$ 400,000	\$ 400,000	\$ 425,000	\$ 1,945,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$360,000
Total	100%		\$360,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: 23002
 Project Name: Serviceline Replacement Program
 Project Category: Reliability & Service Level Improvements
 Priority: 2 PM: Russell Board Approval:

Project Description:

This program consists of targeted replacement of leaking water service lines throughout the District. Replacing leaking and substandard service lines with new copper water service tubing will reduce the potential for contamination of the drinking water supply, increase reliability, reduce maintenance expenditures, and decrease losses. Serviceline projects are prioritized with operations and engineering staff based on frequency of leaks and costs of repairs. These estimates and project locations are subject to change as the projects are better defined. The replacement work is being performed by District crews.

Basis for Priority:

Continuous line breaks affect water quality and supply reliability to customers and increase maintenance costs. This project is required to protect and preserve the health and safety of customers and the public.

Project Financial Summary:

Funded to Date:	\$ 4,745,546	Expenditures through end of year:	\$ 3,397,752
Spent to Date:	\$ 2,647,752	2024 - 2028 Planned Expenditures:	\$ 14,950,000
Cash flow through end of year:	\$ 750,000	Total Project Estimate:	\$ 18,347,752
Project Balance	\$ 1,347,794	Additional Funding Required	\$ 13,602,206

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 250,000
Construction (Various)	\$ 2,700,000	\$ 2,700,000	\$ 2,950,000	\$ 2,950,000	\$ 3,400,000	\$ 14,700,000
TOTAL	\$ 2,750,000	\$ 2,750,000	\$ 3,000,000	\$ 3,000,000	\$ 3,450,000	\$ 14,950,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$1,402,206
Total	100%		\$1,402,206

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN

Program:

Water

Project Number:

23009

Project Name:

Reservoir 1 Storage Replacement

Project Category:

Reliability & Service Level Improvements

Priority:

2

PM:

Delongchamp

Board Approval:

Project Description:

The District owns and operates seven floating membrane (hypalon) covered reservoirs in its drinking water system. Hypalon covers have a life expectancy of 20-30 years depending on material selection and environmental factors, including ultraviolet light (UV) exposure from sunlight and contamination and wear from organic debris such as pine needles. All of the District's hypalon covers have exceeded their useful life and need replacement. Additionally, hypalon covers are vulnerable to wildfire, as demonstrated by the loss of several hypalon covers during the 2018 Camp Fire near the town of Paradise. Due to these vulnerabilities, the District is pursuing the replacement of the Reservoir 1 and Pollock Pines Reservoir hypalon covers.

The District is currently pursuing a grant opportunity from Federal Emergency Management Agency, through their hazard mitigation grant program for both reservoirs. This grant could cover 75% - 100% of the of the design and construction costs.

The Basis of Design Report will be complete in early 2024. Design will start in late 2024, to be complete in early 2025. Construction is expected to be complete in 2026. This CIP shows only constructing Reservoir 1 irregardless of the grant. If the District obtains the grant to also replace the Pollock Pines reservoir, the CIP will be adjusted.

Basis for Priority:

The District's floating covers on the Reservoir 1 and Pollock Pines Reservoirs are beyond their useful life and need repalcement. Additionally, the floating covers are susceptible to wildfire. The project will increase service reliability.

Project Financial Summary:			
Funded to Date:	\$ 256,425	Expenditures through end of year:	\$ 202,762
Spent to Date:	\$ 2,762	2024 - 2028 Planned Expenditures:	\$ 9,050,000
Cash flow through end of year:	\$ 200,000	Total Project Estimate:	\$ 9,252,762
Project Balance	\$ 53,663	Additional Funding Required	\$ 8,996,337

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Study/Planning	\$ 50,000					\$ 50,000
Design	\$ 500,000	\$ 1,000,000				\$ 1,500,000
Construction - Reservoir 1			\$ 7,500,000			\$ 7,500,000
Construction - Moose Hall						
FEMA Hazard Mitigation Grant						\$ -
TOTAL	\$ 550,000	\$ 1,000,000	\$ 7,500,000	\$ -	\$ -	\$ 9,050,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$496,337
Total	100%		\$496,337

Funding Comments:

Project Number:

23010

Project Name:

Res 1 Water Treatment Plant Generator Replacement

Project Category:

Reliability & Service Level Improvements

Priority:

2

PM:

Petterson

Board Approval:

Project Description:

The generator at Reservoir 1 is beyond its useful life and needs to be replaced. It is difficult to get parts for the generator as the unit is obsolete and past its life expectancy, in fact the District can no longer purchase parts for the generator, which means that any repairs to the generator requires a custom repair. In addition, the generator did not pass the load bank test in 2022. In addition, the sound attinuation for the generator is in a mode of failure requiriung a new enclosure around the generator. The District depends on this generator to keep the Reservoir 1 Water Treatment Plant operating during planned and unplanned power outages. In August 2023, the generator broke, and was not repairable. The District started working on ordering a replacement generator.

Basis for Priority:

Ability to maintain critical water supply during planned and unplanned power outages.

Project Financial Summary:			
Funded to Date:	\$ 35,000	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 525,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 525,000
Project Balance	\$ 35,000	Additional Funding Required	\$ 490,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Replacement Generator	\$ 150,000					\$ 150,000
Design	\$ 75,000					\$ 75,000
Construction	\$ 300,000					\$ 300,000
TOTAL	\$ 525,000	\$ -	\$ -	\$ -	\$ -	\$ 525,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$490,000
Total	100%		\$490,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN

Program:

Water

Project Number: 23017
Project Name: El Dorado Hills WTP Clear Well Pump Replacement
Project Category: Reliability & Service Level Improvements
Priority: 1 **PM:** Petterson **Board Approval:**

Project Description:

Staff completes an annual clear well inspection at the El Dorado Hills Water Treatment Plant (EDHWTP), including condition assessment of the vertical turbine pumps that transmit treated water from the EDHWTP into the distribution system. Based on the most recent inspection, staff determined that pumps 311, 312, and 313 required immediate repair or replacement to continue reliably meeting customer demands of the growing El Dorado Hills region.

Basis for Priority:

Replacement has been approved by the Board. Potential interruption to service throughout the District in the event of failures and continued use of expiring equipment that may pose a threat to the health and safety of customers, employees, and the public.

Project Financial Summary:			
Funded to Date:	\$ 153,000	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 153,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 153,000
Project Balance	\$ 153,000	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Pumps And Install	\$ 150,000					\$ 150,000
Capitalized Labor	\$ 3,000					\$ 3,000
TOTAL	\$ 153,000	\$ -	\$ -	\$ -	\$ -	\$ 153,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: 23025
 Project Name: Valve Replacement EDM1 And EDM2
 Project Category: Reliability & Service Level Improvements
 Priority: 2 PM: Wilson Board Approval:

Project Description:

The District has many isolation valves in both the water transmission system and the distribution system that have failed and no longer provide proper isolation for any required shutdown of the system. These valves often are broken in either the open or closed position leaving staff no option but to expand any shutdown in the distribution or transmission system to a larger area where isolation is possible. The District is in need of replacing one isolation valve and adding two additional isolation valves on El Dorado Main #1 and #2 to limit future customer impacts due to emergency shutdowns.

Basis for Priority:

Existing valves are failing due to age and degradation and no longer providing proper isolation of the distribution or transmission systems.

Project Financial Summary:

Funded to Date:	\$ 50,000	Expenditures through end of year:	\$ 45,616
Spent to Date:	\$ 30,616	2024 - 2028 Planned Expenditures:	\$ 150,000
Cash flow through end of year:	\$ 15,000	Total Project Estimate:	\$ 195,616
Project Balance	\$ 4,384	Additional Funding Required	\$ 145,616

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Inspection	\$50,000					\$ 50,000
Construction		\$100,000				\$ 100,000
TOTAL	\$ 50,000	\$ 100,000	\$ -	\$ -	\$ -	\$ 150,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$45,616
Total	100%		\$45,616

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: **PLANNED**
 Project Name: **Construction Spoils Management**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **3** PM: **TBD** Board Approval:

Project Description:

The District's water construction crews utilize hydro excavation to perform repairs on the District's water distribution system year round. Hydro excavation creates wet spoils that require processing and disposal. This project will construct a wet spoils handling facility on the western end of the District's service area to properly process and prepare spoils for disposal.

Basis for Priority:

A proper wet spoils handling facility will improve and streamline water operations efficiency in handling spoils from our excavations and replacement work.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 1,170,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 1,170,000
Project Balance	\$ -	Additional Funding Required	\$ 1,170,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning	\$ 20,000					\$ 20,000
Design	\$ 150,000					\$ 150,000
Construction	\$ 250,000	\$ 750,000				\$ 1,000,000
						\$ -
TOTAL	\$ 420,000	\$ 750,000	\$ -	\$ -	\$ -	\$ 1,170,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$420,000
			\$0
			\$0
Total	100%		\$420,000

Funding Comments:

Project Number: PLANNED
Project Name: EDH Water Treatment Plant Phase 1-3 Improvements
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Eden-Bishop **Board Approval:**

Project Description:

This program consists of long term capital improvements identified in the El Dorado Hills Water Treatment Plant (EDHWTP) Master Plan prepared as part of the WTP Asset Management Plan (AMP). The improvements are organized by 4 phases of work. Phase 1-3 replace and/or upgrade all major treatment plant processes with some limited added capacity with the ability to expand the WTP plant capacity up to 30 mgd (buildout) in Phase 4. A Phase 1-3 Basis of Design report (BODR), detailed design, and the first two phases of construction are planned for the 2024-2028 CIP planning horizon. Cost estimates were prepared consistent with Association for the Advancement of Cost Engineering guidelines for a Class 4 estimate. Class 4 estimates are based on limited information and are typically used for project screening, determination of feasibility, conceptual evaluation, and preliminary budget approval for the next stage. The typical expected accuracy range for this class estimate is 30% - 50% percent on the high side. Cost estimates will be updated through the project phases with contingencies appropriate for the respective level of design detail. Note, Phase 3 construction is not included in cash flow projections as it occurs beyond 2028.

Basis for Priority:

Replacement and improvements to inefficient processes, obsolete controls, and end of life facilities will support regulatory compliance, improve service reliability, and reduce maintenance costs. This project is required to protect and preserve the health and safety of customers and the public.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 63,039,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 63,039,000
Project Balance	\$ -	Additional Funding Required	\$ 63,039,000

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Basis of Design Report	\$ 1,500,000	\$ -	\$ -	\$ -	\$ -	\$ 1,500,000
Design	\$ 1,000,000	\$ 4,000,000	\$ 1,000,000	\$ -	\$ -	\$ 6,000,000
EIR	\$ 75,000	\$ 275,000	\$ 200,000			\$ 550,000
Phase 1 Construction			\$ 8,050,000	\$ 8,050,000	\$ -	\$ 16,100,000
Phase 2 Construction	\$ -	\$ -	\$ -	\$ 10,000,000	\$ 20,500,000	\$ 30,500,000
Eng. during construction			\$ 1,154,000	\$ 1,154,000	\$ 1,154,000	\$ 3,462,000
Constructon management			\$ 1,154,000	\$ 1,154,000	\$ 1,154,000	\$ 3,462,000
Inspection			\$ 300,000	\$ 300,000	\$ 300,000	\$ 900,000
Capitalized labor	\$ 113,000	\$ 113,000	\$ 113,000	\$ 113,000	\$ 113,000	\$ 565,000
TOTAL	\$ 2,688,000	\$ 4,388,000	\$ 11,971,000	\$ 20,771,000	\$ 23,221,000	\$ 63,039,000

Estimated Funding Sources	Percentage	2024	Amount
Bond	100%		\$2,688,000
Total	100%		\$2,688,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: PLANNED
Project Name: El Dorado Hills Raw Water Pump Station 4160 Enclosure
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

OSHA requires that live electrical parts be deenergized before the employee works on or near them, unless the employer can demonstrate that deenergizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. It is infeasible to troubleshoot deenergized equipment. Enclosing 4160 volt gear will protect electrical workers from harsh weather conditions and reduce the risk of electrocution. Additionally an eye wash station should not be out in the hot sun because the water in the station can become too hot and cause burns to the eyes. The American National Standards Institute (ANSI) standard Z358.1-2014 states that the flushing fluid temperature should be between 60°F and 100°F. If the water in the eye wash station is too hot, it can cause thermal burns to the eyes and skin. This project only includes design money and no construction funding until the design is complete.

Basis for Priority:

Installation of structure provides safe access for electricians during inclement weather allowing for repairs and maintenance during winter months.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 150,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 150,000
Project Balance	\$ -	Additional Funding Required	\$ 150,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Facility Improvements						\$ -
Design	\$ 150,000					\$ 150,000
Construction						\$ -
TOTAL	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ 150,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$150,000
Total	100%		\$150,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: **PLANNED**
 Project Name: **Large Meter Replacement**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **TBD** Board Approval:

Project Description:

This program will replace old and inaccurate large meters in the District. The project is required because it provides for replacement of inaccurate large meters and enables all meters to be read on time for billing. The liability to the District if this project is not implemented includes increased labor expenses for manually reading the meters and inputting manual data into the computer system, loss of revenue due to inaccurate reads and increased apparent losses.

Basis for Priority:

Loss of revenue due to under reporting large meters.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 250,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 250,000
Project Balance	\$ -	Additional Funding Required	\$ 250,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Various Large Meters					\$ 250,000	\$ 250,000
TOTAL	\$ -	\$ -	\$ -	\$ -	\$ 250,000	\$ 250,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: PLANNED
Project Name: Placerville Drive Hangtown Creek Bridge Replacement
Project Category: State/County Road Projects
Priority: 1 **PM:** Delongchamp **Board Approval:**

Project Description:

The City of Placerville is planning on replacing the existing Placerville Drive Hangtown Creek Bridge in 2024. Currently, the District has an existing 8" waterline in the existing bridge to provide water to western Placerville. The District has a secondary connection that will be used to feed that portion of the District during construction. The District will replace the existing line with a new line in the bridge concurrent with the City's project. This will be bid as part of the City's project through an agreement with the City of Placerville. The City of Placerville anticipated completing their environmental permitting in 2023 and design for the project to be completed in 2024 with construction to begin in the spring of 2025.

Basis for Priority:

The District must replace the waterline to accommodate the City's bridge project.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 1,050,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 1,050,000
Project Balance	\$ -	Additional Funding Required	\$ 1,050,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 75,000					\$ 75,000
Construction Inspection		\$ 75,000				\$ 75,000
Construction		\$ 900,000				\$ 900,000
TOTAL	\$ 75,000	\$ 975,000	\$ -	\$ -	\$ -	\$ 1,050,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$75,000
Total	100%		\$75,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: **PLANNED**
 Project Name: **Pleasant Valley Road Bulk Water Station Upgrades**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **1** PM: **TBD** Board Approval:

Project Description:

The existing bulk water station located at 4280 Pleasant Valley Road in Placerville has had multiple near miss accidents reported to the District. The District would like to make updates to the driveway entrance to make it safer for the public and for District staff who access the site.

Basis for Priority:

100% safety is one of the District's guiding principles. By making updates to the driveway the District can help prevent near miss accidents.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 195,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 195,000
Project Balance	\$ -	Additional Funding Required	\$ 195,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning		\$ 20,000				\$ 20,000
Design		\$ 50,000				\$ 50,000
Construction			\$ 125,000			\$ 125,000
TOTAL	\$ -	\$ 70,000	\$ 125,000	\$ -	\$ -	\$ 195,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: Pressure Reducing Station Rehabilitation and Replacement Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

The District has 246 pressure reducing stations throughout the service area to keep line pressures within acceptable ranges as it travels from Pollock Pines down to El Dorado Hills. Many of these stations are in varying degrees of repair or rehabilitation based on age, construction, and design life cycle. This program is to identify specific stations to rehabilitate, replace or upgrade to maintain service reliability throughout the District. Staff examines each pressure reducing station to determine if the station can be rehabilitated in place or if a new station needs to be constructed in parallel with the existing station. Staff has been able to rehabilitate the larger transmission stations in place utilizing the existing vaults while adding a protective layer of coating on the vault and all pipework, new isolation valves, and installing new pressure reducing valves. Due to the construction of the smaller below ground pressure reducing stations they typically require a complete replacement to an above ground location where possible. By moving the smaller facilities above ground it removes the confined space entry for operation and maintenance while also providing a dry environment for prolonged life for external coatings. Loss of pressure control or valve failure can result in extensive water line damage or complete failure. Program management expenditures identified include prioritizing and designing each PRS replacement. Staff reviews the list of pressure reducing valves each year and based on failures or other noted deficiencies prioritizes the stations to be included in this program. Actual PRS replacement costs for each individual station will be brought to the Board for specific approval.

2024: Design Control for DSM PRS22

2025: Construct DSM PRS22, Design EDM1 PRS13 (located at Reservoir 6)

2026: Construct EDM1 PRS13 and EDM2 PRS2 ARV, Design EDM1 PRS3

2027: Construct EDM1 PRS 3, Design EDM1 PRS8, Replace EDH PRS3 and HEP PRS1

2028: Construct EDM1 PRS 8, Replace LL PRS1

Basis for Priority:

Existing stations are incurring increasing maintenance costs and reduced service reliability due to age and degradation.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 2,250,000
Cash flow through end of year:		Total Project Estimate:	\$ 2,250,000
Project Balance	\$ -	Additional Funding Required	\$ 2,250,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$50,000	\$200,000	\$50,000	\$100,000		\$ 400,000
Construction			\$700,000	\$250,000	\$900,000	\$ 1,850,000
TOTAL	\$ 50,000	\$ 200,000	\$ 750,000	\$ 350,000	\$ 900,000	\$ 2,250,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$50,000
Total	100%		\$50,000

Funding Comments:

Project Number: PLANNED
Project Name: Pump Station Rehabilitation and Replacement Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

The District has numerous distribution pump stations throughout the water service area that operate to increase pressures to customers at higher elevations. This is an annual program to replace, rehabilitate or upgrade pump stations that have reached the end of their service life. Engineering and O&M staff identify and prioritize pump stations in need of upgrades to ensure reliable supply of the necessary pressure and flow to their respective service areas, and to comply with fire flow requirements and incorporate emergency standby power where needed. Replacement components include pumps, hydropneumatic tanks, electrical control, valves, yard piping, SCADA equipment, and buildings to accommodate equipment. Staff reviews the list of pumps each year and based on failures or other noted deficiencies prioritizes the stations to be included in this program. Actual Pump Station replacement costs for each individual station will be brought to the Board for specific approval. This programmatic CIP is for pump station replacement and rehabilitation projects that have been identified, but have not been assigned a project number. Pump station replacement projects have been deferred in the CIP to meet financial plan objectives.

- 2024: Evaluate Strawberry raw water pump station
- 2025-26: Design Monte Vista Pump Station
- 2027: Construct Montevista Pump Station, Design Reservoir 8 Pump Station
- 2028: Construct Reservoir 8 Pump Station, Design Oak Lane Pump Station

Basis for Priority:

Potential interruption to service throughout the District in the event of failures and continued use of expiring equipment that may pose a threat to the health and safety of customers, employees, and the public.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 1,850,000
Cash flow through end of year:		Total Project Estimate:	\$ 1,850,000
Project Balance	\$ -	Additional Funding Required	\$ 1,850,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 75,000	\$ 75,000	\$ 100,000	\$ 100,000		\$ 350,000
Construction				\$ 900,000	\$ 600,000	\$ 1,500,000
TOTAL	\$ 75,000	\$ 75,000	\$ 100,000	\$ 1,000,000	\$ 600,000	\$ 1,850,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$75,000
Total	100%		\$75,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: PLANNED
Project Name: Res 1 Water Treatment Plant Phase 1 Improvements Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

This program consists of long term capital improvements identified in the El Dorado Hills Water Treatment Plant (EDHWTP) Master Plan prepared as part of the WTP Asset Management Plan (AMP). The improvements are organized by 4 phases with a cost of \$145 million over 20 years. Based on other WTP improvement priorities and the more immediate need to fully upgrade the El Dorado Hills WTP, only the most critical Phase 1 and 2 improvements will be addressed in this CIP planning horizon. The modified Phase 1 and 2 improvements will include a new filter washwater equalization tank, chemical building with storage and feed piping, an earthen sludge storage pond at the current reservoir location, and a new flocculation basin. Cost estimates were prepared consistent with Association for the Advancement of Cost Engineering guidelines for a Class 4 estimate. Class 4 estimates are based on limited information and are typically used for project screening, determination of feasibility, conceptual evaluation, and preliminary budget approval for the next stage. The typical expected accuracy range for this class estimate is 30% - 50% percent on the high side. Cost estimates will be updated through the project phases with contingencies appropriate for the respective level of design detail.

Basis for Priority:

Replacement and improvements to inefficient processes, obsolete controls, and end of life facilities will support regulatory compliance, improvement service reliability, and reduce maintenance costs. This project is required to protect and preserve the health and safety of customers and the public.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 30,206,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 30,206,000
Project Balance	\$ -	Additional Funding Required	\$ 30,206,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Basis of Design Report	\$ 425,000					\$ 425,000
Design		\$ 900,000	\$ 1,000,000			\$ 1,900,000
EIR		\$ 225,000	\$ 200,000			\$ 425,000
Construction				\$ 11,500,000	\$ 11,500,000	\$ 23,000,000
Service during construction				\$ 861,500	\$ 861,500	\$ 1,723,000
Construction management				\$ 861,500	\$ 861,500	\$ 1,723,000
Inspection				\$ 225,000	\$ 225,000	\$ 450,000
Capitalized labor	\$ 112,000	\$ 112,000	\$ 112,000	\$ 112,000	\$ 112,000	\$ 560,000
TOTAL	\$ 537,000	\$ 1,237,000	\$ 1,312,000	\$ 13,560,000	\$ 13,560,000	\$ 30,206,000

Estimated Funding Sources	Percentage	2024	Amount
Bond	100%		\$537,000
Total	100%		\$537,000

Funding Comments:

Project Number: PLANNED
Project Name: Reservoir A Backwash to Waste Valve Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

The Reservoir A WTP has backwash-to-waste valves that are an integral part of the backwashing of all twelve filter cells. These valves have reached the end of their useful life, have signs of degradation, corrosion, and operate unreliably. They are located deep in a tight pit in the center of each filter cluster with access being a safety concern due to confined spaces and a constant corrosive atmosphere. As the valves age even further the need to access the backwash-to-waste valves to assist in their proper operation has significantly increased. The unreliability of the valves to operate properly requires that a treatment plant operator be onsite while performing daily backwashes. Backwashing the filters is integral to the successful operation of the entire treatment plant. Properly operated backwashing processes can significantly reduce the risk of complete filter failures. These valves are used to drain the the daily backwash water used to begin the residual drying process and recycle the water used back to the headwork of the plant. This project will replace the backwash-to-waste valves and controls that have reached their end of service life and raise them out of the corrosive environment that they exist in now up to the filter deck eliminating the safety hazard when maintenance is performed.

Basis for Priority:

The valves do not always fully close thus allowing some waste to add to the backwash return flow being returned to the headwork and they cannot provide good isolation which impacts the overall process. Additionally, when maintenance is performed the access to the controls to manually assist closing and opening is a safety concern including confined space and safe access down into the bottom of the valve gallery. As demands pick up, and/or water quality drastically changes so can the use of these valves. Another issue we are encountering is that the age of the valves and controls makes securing repair parts very difficult. We frequently have to mix and match parts from different manufacturers and make custom modifications to the controllers to get proper operations and reliability.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 2,120,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 2,120,000
Project Balance	\$ -	Additional Funding Required	\$ 2,120,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 195,000				\$ 195,000
Construction			\$ 1,750,000			\$ 1,750,000
Services During construction			\$ 175,000			\$ 175,000
TOTAL	\$ -	\$ 195,000	\$ 1,925,000	\$ -	\$ -	\$ 2,120,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments: This project does not increase capacity, therefore should be funded with rates.

2024

CAPITAL IMPROVEMENT PLAN

Program:

Water

Project Number: **PLANNED**
 Project Name: **Ridgeview Pump Station Rehabilitation**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **TBD** Board Approval:

Project Description:

The Ridgeview pump station is located next to the 1 MG Ridgeview tank and needs to be assessed for replacement. The CIP will evaluate the facility, determine remaining useful life and identify components that must be replaced, or if full replacement is warranted.

Basis for Priority:

Life cycle evaluation of an aging asset to maintain service reliability.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 100,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 100,000
Project Balance	\$ -	Additional Funding Required	\$ 100,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design		\$ 100,000				\$ 100,000
Construction						\$ -
						\$ -
TOTAL	\$ -	\$ 100,000	\$ -	\$ -	\$ -	\$ 100,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: PLANNED
Project Name: SCADA Water Hardware Replacement Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Leanos **Board Approval:**

Project Description:

This funding is designated to be a rolling CIP to replace end of life cycle SCADA hardware District wide. This program would focus on replacing and reprogramming of the end of life PLC hardware and associated SCADA reconfigurations. Many sites are beyond the PLC hardware life expectancy of 15 years.

Basis for Priority:

Rolling CIP to replace end of life cycle SCADA hardware, ensure service reliability, and reduce problem areas of the SCADA system that cause overtime.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 500,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 500,000
Project Balance	\$ -	Additional Funding Required	\$ 500,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Hardware	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 200,000
Capitalized Labor	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 75,000
Professional Services	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 225,000
TOTAL	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 500,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$100,000
Total	100%		\$100,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: PLANNED
Project Name: Sly Park Outlet Control Facility Improvements
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

The project includes design and installation of more reliable power distribution for the facility. The site currently has multiple installations dating back to 1953 and is no longer in compliance with National Fire Protection Agency. The site requires a new PG&E meter and main, automatic transfer switch, and panel board for distribution. Furthermore, the District is in need of replacing the hydraulic lines for the isolation valves at the dam. This will include the replacement of hydraulic fluid and any necessary upgrades to provide reliable isolation moving forward.

Basis for Priority:

The project will improve reliability of a critical water facility.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 150,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 150,000
Project Balance	\$ -	Additional Funding Required	\$ 150,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning		\$ 50,000				\$ 50,000
Design			\$ 100,000			\$ 100,000
Construction						\$ -
						\$ -
TOTAL	\$ -	\$ 50,000	\$ 100,000	\$ -	\$ -	\$ 150,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: Sly Park Spillway Improvements
Project Category: Regulatory Requirements

Priority: 1 **PM:** Kessler **Board Approval:**

Project Description:

Following the February 2017 Oroville Dam Spillway failure event, the California Department of Water Resources - Division of Safety of Dams required various dam owners to perform a spillway condition assessment applying the lessons learned from Oroville. Sly Park Spillway was one of the facilities selected, and while the condition assessment found Sly Park does not currently have the significant issues as did Oroville, there were several recommendations for improvement. These include: 1) Designing and installing a more durable surface on the invert of the flip bucket near the end of the spillway chute where concrete erosion and exposure of steel reinforcement has been occurring (2025 planned construction); and 2) Reviewing spillway hydraulics, and based on the spillway rated capacity, develop plans for raising the height of sidewalls in the vicinity of the flip bucket where historic photos show a water stain reaching the top of the walls from previous spills much less than the design capacity (2025 planned construction). The risk of spill water overtopping the sidewalls is the potential for erosion of soil and rock outside the chute that could then undermine the structure and cause it to fail (as occurred at Oroville). In addition, the right bank of the channel downstream of the concrete spillway chute needs erosion protection. The exposed soil bank is oversteepened and not durable to the high velocity flows that can discharge from the spillway. If left untreated, it could compromise the spillway structure (2025 planned construction).

Basis for Priority:

Compliance with DSOD dam safety program requirements

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 320,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 320,000
Project Balance	\$ -	Additional Funding Required	\$ 320,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 120,000					\$ 120,000
Construction		\$ 200,000				\$ 200,000
						\$ -
TOTAL	\$ 120,000	\$ 200,000	\$ -	\$ -	\$ -	\$ 320,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$120,000
Total	100%		\$120,000

Funding Comments:

Project Number: PLANNED
Project Name: Transmission Slope Stabilization
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

The District owns and maintains various transmission mains across the District to be able to provide large volumes of water from 4,000 feet to 700 feet in elevation. These facilities are typically 16" and larger and transmit water between multiple pressure reducing stations to reservoirs and tanks in the distribution system. These facilities typically are exposed to higher velocities in an effort to provide water during high flow events. Additionally, many of these facilities were constructed across rugged terrain prior to major roadways being available in the 50's, 60's, and 70's. Due to the location of these pipelines the potential for slope failure is greatly increased. During the storms of 2017 there were two major slides that occurred, one on El Dorado Main #2 and one on Moose Hall Transmission. These lines are in need of various slope stabilization measures to protect not only the pipelines but the District's access to them for future maintenance and repairs. This program will consist of completing slope stabilization designs, access improvements where possible, bidding, and construction of all necessary repairs. Actual slope stabilization project costs for each individual pipeline will be brought to the Board for specific approval.

Basis for Priority:

Slope stabilization for transmission pipelines due to slides causing damage to pipe benches and access roads to the facilities.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 675,000
Cash flow through end of year:		Total Project Estimate:	\$ 675,000
Project Balance	\$ -	Additional Funding Required	\$ 675,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Engineering		\$75,000				\$ 75,000
Stabilization EDM#2			\$ 300,000			\$ 300,000
Stabilization Moose Hall			\$ 300,000			\$ 300,000
TOTAL	\$ -	\$ 75,000	\$ 600,000	\$ -	\$ -	\$ 675,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: **PLANNED**
 Project Name: **Valve Replacement Program**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **Russell** Board Approval:

Project Description:

The District has many isolation valves in both the water transmission system and the distribution system that have failed and no longer provide proper isolation for any required shutdown of the system. These valves often are broken in either the open or closed position leaving staff no option but to expand any shutdown in the distribution or transmission system to a larger area where isolation is possible. If the valve cannot be repaired it will be replaced under this program. The District also has over 270 pressure reducing stations with isolation valves within. If the pressure reducing stations cannot be rebuilt due to failure of the isolation valves the isolation valves will be replaced under this program. This program does not identify specific valves to replace. Program management expenditures identified include prioritizing of each valve replacement.

Basis for Priority:

Existing valves are failing due to age and degradation and no longer providing proper isolation of the distribution or transmission systems.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 500,000
Cash flow through end of year:		Total Project Estimate:	\$ 500,000
Project Balance	\$ -	Additional Funding Required	\$ 500,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Construction		\$100,000	\$125,000	\$125,000	\$150,000	\$ 500,000
TOTAL	\$ -	\$ 100,000	\$ 125,000	\$ 125,000	\$ 150,000	\$ 500,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: Water Arc Flash Risk Assessment Program
Project Category: Regulatory Requirements
Priority: 1 **PM:** Leanos **Board Approval:**

Project Description:

This program is intended to comply with regulatory requirements imposed by OSHA in regards to electrical safety of qualified workers. Majority of the electrical equipment in the District is no longer in compliance with the current regulatory requirements and National Fire Protection Association code (NFPA 70E 2021 Standard for Electrical Safety in the Workplace). In order for District to comply and avoid potential fines, Arc Flash Risk Assessment needs to be performed for each District facility that contains electrical hazards. Due to large amount of facilities and electrical equipment, this compliance requirement cannot be completed in a single year and must be separated into manageable portions. This program will assure District stays in compliance.

Basis for Priority:

Maintain electrical safety regulatory requirements of OSHA and NFPA70E. Determine replacement and improvement strategy to support regulatory compliance, improve service reliability and safety. This study will protect and preserve the health and safety of employees and the public.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 250,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 250,000
Project Balance	\$ -	Additional Funding Required	\$ 250,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Professional Services	\$ 35,000	\$ 35,000	\$ 35,000	\$ 35,000	\$ 35,000	\$ 175,000
Capitalized Labor	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 75,000
TOTAL	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 250,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$50,000
Total	100%		\$50,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: **PLANNED**
 Project Name: **Water Distribution Radio Path Program**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **3** PM: **Leanos** Board Approval:

Project Description:

This CIP follows recommendations outlined in the SCADA masterplan. The radio path upgrade would optimize and create reliable wireless communication options for the District's remote facilities.

Basis for Priority:

Many remote facilities depend on antiquated serial radios. Quickly evolving technology requires EID to move to an IP-based communication to retain maintainable parts. Performing large migrations without a proper design and proven concepts creates great risk for improper implementation.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 100,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 100,000
Project Balance	\$ -	Additional Funding Required	\$ 100,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Capitalized Labor	\$ 50,000	\$ 50,000				\$ 100,000
TOTAL	\$ 50,000	\$ 50,000	\$ -	\$ -	\$ -	\$ 100,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$50,000
Total	100%		\$50,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: **PLANNED**
 Project Name: **Water Model - Validation and Update**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **3** PM: **Carrington** Board Approval:

Project Description:

The District maintains a system-wide hydraulic water model. Regular updates are needed to verify fire flow and water quality.

Basis for Priority:

Hydraulic water modeling is necessary to inform capacity limitations and water age in the system.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 150,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 150,000
Project Balance	\$ -	Additional Funding Required	\$ 150,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 50,000		\$ 50,000		\$ 50,000	\$ 150,000
Environmental						\$ -
Construction						\$ -
						\$ -
TOTAL	\$ 50,000	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ 150,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$50,000
			\$0
			\$0
Total	100%		\$50,000

Funding Comments:

Project Number: PLANNED
Project Name: Water Storage Tank Replacement & Rehabilitation Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

This program consists of targeted replacement and rehabilitation of drinking water storage tanks and reservoirs within the distribution system. The District operates 24 welded steel storage tanks and 7 bolted steel storage tanks, ranging in age from 8 to 58 years of age, most of which were constructed in the last 18 years as part of the District line and cover program. Additionally, the District operates 7 floating cover drinking water reservoirs ranging in age from 26 to 33 years of age. This program is to identify specific tanks and reservoirs to rehabilitate, replace, or upgrade to maintain service reliability throughout the District. This program also includes tank recoating for the welded storage tanks. Program management expenditures identified include prioritizing and designing each tank and reservoir improvement project. Actual replacement and recoating costs for each individual tank and reservoir will be brought to the Board for specific approval.

2024: Reservoir 4 and Reservoir 7A Structural Replacement; Reservoir 7B Exterior Recoating

2025: Cathodic Protection in the 835 Valley View Tank and Oakridge Tanks. Design for Reservoir 6 Tank Replacement; Reservoir 4 and 7 B Recoating

2026: Design for Reservoir 6 Tank Replacement; Rancho Del Sol Tank & Reservoir 5 Tank & EDHWTP Backwash Make Up Tank Recoating

2027: Construction of Reservoir 6 Tank Replacement; Oakridge Tank #1 & Sly Park Hills Recoating

2028: Cathodic Protection in the Outingdale Lower Tank; Oak Ridge Tank #2 Recoating

Basis for Priority:

Life cycle replacement of District assets due to age and degradation.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 16,692,573
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 16,692,573
Project Balance	\$ -	Additional Funding Required	\$ 16,692,573

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design/Planning		\$ 150,000	\$ 450,000			\$ 600,000
Construction	\$ 2,785,670	\$ 2,794,723	\$ 808,360	\$ 6,730,209	\$ 2,973,612	\$ 16,092,573
TOTAL	\$ 2,785,670	\$ 2,944,723	\$ 1,258,360	\$ 6,730,209	\$ 2,973,612	\$ 16,692,573

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$2,785,670
Total	100%		\$2,785,670

Funding Comments:

Project Number: PLANNED
Project Name: Waterline Replacement Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

This program consists of targeted replacement of leaking waterlines including formerly private lines within the District. Replacing leaking and substandard waterlines in the distribution system will reduce the potential for contamination of the drinking water supply, increase reliability, reduce maintenance expenditures, and decrease losses. This program also targets any pipelines near leech fields, gas lines, and electrical conduits that need to be relocated to meet current District standards. Pipeline projects are prioritized with Operations and Engineering staff based on frequency of leaks and costs of repairs. Operations staff will complete main replacements where possible with available funding for high leak prone areas and where undersized pipe is causing low pressure. These estimates and project locations are subject to change as the projects are better defined. Major expenditures have been deferred in the CIP to meet financial plan objectives however specific projects may be accelerated if funding is available.

- 2025: Design Highway 50 Crossings
- 2026: Construct Highway 50 Crossings, Design Forni Road Waterline Replacement
- 2027 and 2028: Construct Forni Road Waterline Replacement

Basis for Priority:

Continuous line breaks affect water quality and supply reliability to customers and increase maintenance costs. This project is required to protect and preserve the health and safety of customers and the public.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 8,150,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 8,150,000
Project Balance	\$ -	Additional Funding Required	\$ 8,150,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 150,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 525,000
Various Small Waterline Replacements			\$ 80,000	\$ 80,000	\$ 80,000	\$ 240,000
Construction (Various)			\$ 1,795,000	\$ 2,795,000	\$ 2,795,000	\$ 7,385,000
TOTAL	\$ -	\$ 150,000	\$ 2,000,000	\$ 3,000,000	\$ 3,000,000	\$ 8,150,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs			\$0
Total	0%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN

Program:

Water

Project Number: Planned
Project Name: Wholesale Meter Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

This program replaces old and inaccurate large wholesale meters in the District. The project is required because it provides for replacement of inaccurate large meters and enables all meters to be read in time for billing. The liability to the District if this project is not implemented includes increased labor expenses for manually reading the meters and inputting manual data into the computer system, loss of revenue due to inaccurate reads and increased apparent losses. Actual wholesale meter replacement costs for each individual site will be brought to the Board for specific approval.

Basis for Priority:

Loss of revenue due to under reporting large wholesale meters.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	
Spent to Date:		2024 - 2028	Planned Expenditures:
Cash flow through end of year:		Total Project Estimate:	
Project Balance		Additional Funding Required	

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Woodman Circle 6" Meter		\$250,000				\$ 250,000
Coloma Court (Combella Road) 8" & 2" Meters				\$275,000		\$ 275,000
Coloma Court 8" & 2" Meters						\$ -
New Jersey 8" Fire and 2" Meters						\$ -
Poverty Hill 6" Fire & 2" Meters						\$ -
TOTAL	\$ -	\$ 250,000	\$ -	\$ 275,000	\$ -	\$ 525,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Water

Project Number: PLANNED
Project Name: Water Treatment Plant Asset Replacement Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

This is an annual program to replace water treatment plant assets that have failed or reached end of useful life. Assets to be replaced or upgraded under this program include mechanical, electrical and instrumentation systems, treatment plant equipment and other plant assets. This program is also used to replace assets aligned with Water Treatment Plant Master Planning efforts.

Basis for Priority:

Replacement and improvements to inefficient processes, obsolete controls and substandard facilities will support regulatory compliance, improvement service reliability and reduce maintenance costs.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 1,000,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 1,000,000
Project Balance	\$ -	Additional Funding Required	\$ 1,000,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Facility Improvements	\$ 500,000	\$ 500,000				\$ 1,000,000
Design						\$ -
Construction						\$ -
TOTAL	\$ 500,000	\$ 500,000	\$ -	\$ -	\$ -	\$ 1,000,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$500,000
Total	100%		\$500,000

Funding Comments:

Project Number: PLANNED
Project Name: Water Treatment Plant Flow Meters Upgrade
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

This CIP is for the replacement and testing of our source water meters to establish accuracy of our source meters to comply with SB 555 and the Water Loss Reduction program which requires all public water systems to submit a level 1 validated water audit to DWR meeting the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34. The validated water audit must be prepared in accordance with the method adopted by the American Water Works Association Water Audit and Loss Control Programs, Manual M36. In this methodology all measurements to determine the value of water lost starts with the amount of watering leaving our plants and entering our distribution system. Annual calibration and testing are required to assign data validity scores to our data. By the year 2028 the District is expected to show some level of improvement of those scores year over year. Replacing existing meters that were previously tested in 2005 and in 2019, would allow us at the same time to install testing ports or locations. The District has two finished water meters and one raw water meter at the Reservoir A Water Treatment Plant. These meters have outlived their useful lives and are in need of being replaced. The meters are for the finished water transmission lines, the Camino Conduit and the Pleasant Oak Main. The raw water meter provides determines the flow entering the plant. Flow meter installation will require excavation and installation of vaults for future maintenance needs.

Basis for Priority:

Flow meters need to be upgraded to meet SB 555.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 100,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 100,000
Project Balance	\$ -	Additional Funding Required	\$ 100,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Reservoir A Raw Water Meter Study/Design					\$ 100,000	\$ 100,000
Reservoir A Raw Water Meter Construction						\$ -
TOTAL	\$ -	\$ -	\$ -	\$ -	\$ 100,000	\$ 100,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$0
Total	100%		\$0

Funding Comments:

Wastewater Projects

Project Number: 15036
Project Name: Silva Valley - El Dorado Hills Sewer Pipeline
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

The 2013 Wastewater Facility Master Plan (WWMP) identified 2,100 feet of the 18"/21" sewer pipeline along Silva Valley Road and 4,500 feet of 18" sewer pipeline between Highway 50 and the El Dorado Hills Wastewater Treatment Plant as needing capacity upgrades. In order to refine the extent and timing of improvements required, flow monitoring and survey work to determine manhole invert and ground elevations was completed. Flow monitoring and survey data was incorporated into the District's collection system model to determine remaining pipeline capacity. The current capacity analysis indicates the peak wet weather flow rate in approximately 9,000 feet of sewer pipeline exceeds design capacity and is in need of capacity upgrades.

A Basis of Design (BODR) report is needed to determine the most cost effective and constructible pipe alignment considering environmental concerns and easement acquisition. Because project development is conceptual at this time, construction expenditures are not included. Once the BODR is completed, construction expenditures will be programmed into the Capital Improvement Plan.

Basis for Priority:

This project will replace undersized assets to ensure reliability and continual operation of the El Dorado Hills collection system. If the capacity limitations are not corrected, sanitary sewer overflows could occur and future connections to the collection system will be limited.

Project Financial Summary:

Funded to Date:	\$ 245,920	Expenditures through end of year:	\$ 216,593
Spent to Date:	\$ 211,593	2024 - 2028 Planned Expenditures:	\$ 1,000,000
Cash flow through end of year:	\$ 5,000	Total Project Estimate:	\$ 1,216,593
Project Balance	\$ 29,327	Additional Funding Required	\$ 970,673

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design			\$ 300,000	\$ 250,000	\$ 250,000	\$ 800,000
Environmental				\$ 100,000	\$ 100,000	\$ 200,000
Construction						\$ -
TOTAL	\$ -	\$ -	\$ 300,000	\$ 350,000	\$ 350,000	\$ 1,000,000

Estimated Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: 17046
Project Name: Strolling Hills Pipeline Improvements
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Kelsch **Board Approval:**

Project Description:

The Motherlode Force Main transitions to gravity flow before it enters Strolling Hills Road and continues downhill toward the Deer Creek Wastewater Treatment Plant. Several services are connected directly to the 12-inch PVC pipe that conveys flows along this segment. Hydraulic capacity is restricted during large storm events and this segment of pipeline will continue to restrict flows in the Motherlode Force Main until the pipeline is upsized.

This project will include a Basis of Design report, plans and specifications, a phasing plan, and construction of approximately 6,000 feet of increased diameter pipe. The Strolling Hills pipe was identified in the 2013 Wastewater Master Plan and confirmed in the 2021 Deer Creek Collection System Modeling Project as a capacity upgrade project. The Basis of Design report will address pipe alignment and identify easement requirements.

Basis for Priority:

This project will replace undersized assets to ensure reliability and continual operation of the upstream Deer Creek collection system. This project is required to ensure full capacity of the newly upsized Motherlode Force Main can be used without compromising the strolling hills pipeline.

Project Financial Summary:			
Funded to Date:	\$ 50,000	Expenditures through end of year:	\$ 31,661
Spent to Date:	\$ 26,661	2024 - 2028 Planned Expenditures:	\$ 6,500,000
Cash flow through end of year:	\$ 5,000	Total Project Estimate:	\$ 6,531,661
Project Balance	\$ 18,339	Additional Funding Required	\$ 6,481,661

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 400,000					\$ 400,000
Environmental	\$ 100,000					\$ 100,000
Construction		\$ 3,000,000	\$ 3,000,000			\$ 6,000,000
TOTAL	\$ 500,000	\$ 3,000,000	\$ 3,000,000	\$ -	\$ -	\$ 6,500,000

Estimated Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$481,661
			\$0
Total	100%		\$481,661

Funding Comments:

Project Number: 18003
Project Name: Indian Creek Lift Station Upgrades
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Kelsch **Board Approval:**

Project Description:

The Indian Creek Lift Station (ICLS) was originally constructed in 1988 and serves approximately 105 equivalent dwelling units. The lift station is comprised of a wet well to collect influent flow, a separate dry well with dry pit pumps, and an electrical control house approximately 600 feet east of the wells. ICLS is one of twenty lift stations in the collections system that has a PLC 10 years beyond its useful life and is in need of replacement. The pumps, generator, and other mechanical components are also beyond useful life and in need of replacement. This configuration of the remote electrical control house and separated dry pit pumps pose operational safety concerns during regular maintenance and emergency situations.

The Indian Creek Lift Station Upgrades project would replace mechanical and electrical components consistent with the District's lift station standards. The PG&E power connection and main disconnect will remain at the remote control house while the new PLC, MCC, and generator will be installed near the wet well. New submersible pumps will be installed so that the dry pit pumps can be removed and the dry well can be abandoned. Minor civil improvements include a retaining wall and new fence installed around the lift station perimeter. This project has been deferred in the CIP to meet financial plan objectives, however the project may be accelerated based on priority and available funding.

Basis for Priority:

This project will upgrade a degrading lift station and ensure reliability and continual operation of the station.

Project Financial Summary:

Funded to Date:	\$ 495,788	Expenditures through end of year:	\$ 422,459
Spent to Date:	\$ 392,459	2024 - 2028 Planned Expenditures:	\$ 2,575,000
Cash flow through end of year:	\$ 30,000	Total Project Estimate:	\$ 2,997,459
Project Balance	\$ 73,329	Additional Funding Required	\$ 2,501,671

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 25,000					\$ 25,000
Environmental	\$ 50,000					\$ 50,000
Construction	\$ 1,250,000	\$ 1,250,000				\$ 2,500,000
TOTAL	\$ 1,325,000	\$ 1,250,000	\$ -	\$ -	\$ -	\$ 2,575,000

Estimated Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$1,251,671
			\$0
Total	100%		\$1,251,671

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: 20040
 Project Name: Deer Park LS SCADA Hardware Replacement
 Project Category: Reliability & Service Level Improvements
 Priority: 2 PM: Leanos Board Approval:

Project Description:

This project will replace and reprogram the end of life PLC hardware and associated SCADA application at this sewer lift station.

Basis for Priority:

Replace end of life cycle SCADA hardware, ensure service reliability and to reduce problem areas of the SCADA system causing overtime.

Project Financial Summary:

Funded to Date:	\$ 50,000	Expenditures through end of year:	\$ 41,525
Spent to Date:	\$ 39,525	2024 - 2028 Planned Expenditures:	\$ 65,000
Cash flow through end of year:	\$ 2,000	Total Project Estimate:	\$ 106,525
Project Balance	\$ 8,475	Additional Funding Required	\$ 56,525

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Professional Services	\$ 35,000					\$ 35,000
Installation	\$ 15,000					\$ 15,000
Capitalized Labor	\$ 15,000					\$ 15,000
TOTAL	\$ 65,000	\$ -	\$ -	\$ -	\$ -	\$ 65,000

Estimated Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%		\$56,525
			\$0
Total	100%		\$56,525

Funding Comments:

Project Number: 21007
Project Name: Town Center Force Main Phase 4 Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

The Town Center force main and lift station were originally designed and constructed in 1980 to collect wastewater from Prospector’s Plaza and pump it to the Motherlode force main at Pleasant Valley Road and Motherlode Drive. The Town Center force main was originally constructed of 8” asbestos cement (AC) pipe, which has experienced several failures causing SSO’s in past years due to corrosion. The force main is in need of replacement with corrosion-resistant PVC to extend the life of this asset. Phase 4 is the final phase which will replace the force main from the upstream Town Center lift station to the beginning of phase 2A, south of Highway 50.

Project funding includes design completion and environmental only.

Basis for Priority:

This project will replace failing assets to ensure reliability and continual operation of the wastewater collection system.

Project Financial Summary:

Funded to Date:	\$ 50,000	Expenditures through end of year:	\$ 29,062
Spent to Date:	\$ 24,062	2024 - 2028 Planned Expenditures:	\$ 100,000
Cash flow through end of year:	\$ 5,000	Total Project Estimate:	\$ 129,062
Project Balance	\$ 20,938	Additional Funding Required	\$ 79,062

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design					\$ 50,000	\$ 50,000
Environmental					\$ 50,000	\$ 50,000
Construction						\$ -
TOTAL	\$ -	\$ -	\$ -	\$ -	\$ 100,000	\$ 100,000

Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: 21026
Project Name: St. Andrews Lift Station Upgrades
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Kelsch **Board Approval:**

Project Description:

The St. Andrews Lift Station (SALS) was originally constructed in 1985 and serves approximately 5070 equivalent dwelling units. The lift station has undergone several upgrades throughout the years including new pumps, discharge piping, and electrical upgrades. This project will include discharge manifold modifications, upsizing of the bypass port for maintenance or emergency bypassing, and a programming update of the remote SCADA system. Although newer electrical equipment was previously installed, only a minimum amount of data points are collected and transmitted into the remote SCADA system. Increasing the amount of data remotely visible per District standards will aid in operational decision making to reduce the likelihood of sanitary sewer overflows.

Basis for Priority:

This project will optimize pump operation, maximize bypassing capabilities, and increase data remote visibility that informs operational decision making and reduces the likelihood sanitary sewer overflows, hazards to the public, and regulatory fines.

Project Financial Summary:

Funded to Date:	\$ 48,610	Expenditures through end of year:	\$ 34,961
Spent to Date:	\$ 19,961	2024 - 2028 Planned Expenditures:	\$ 350,000
Cash flow through end of year:	\$ 15,000	Total Project Estimate:	\$ 384,961
Project Balance	\$ 13,649	Additional Funding Required	\$ 336,351

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 25,000					\$ 25,000
Environmental	\$ 25,000					\$ 25,000
Construction	\$ 50,000	\$ 250,000				\$ 300,000
TOTAL	\$ 100,000	\$ 250,000	\$ -	\$ -	\$ -	\$ 350,000

Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$86,351
			\$0
Total	100%		\$86,351

Funding Comments:

Project Number: 21041
Project Name: Wastewater Facility Generators - FEMA Grant
Project Category: Reliability & Service Level Improvements
Priority: 1 **PM:** Kelsch **Board Approval:**

Project Description:

The District applied for and was granted Hazard Mitigation Grant Program (HMGP) funding through the Federal Emergency Management Agency (FEMA) to provide a federal cost share for emergency backup generator installations at fifteen remote District facilities. Included in the application is generators for seven wastewater lift stations. This project will provide local agency funding as required by the HMGP grant.

Basis for Priority:

The project will provide continual power at seven wastewater lift stations during utility power outages. Grant timeline requires project completion by September 2022.

Project Financial Summary:

Funded to Date:	\$ 306,347	Expenditures through end of year:	\$ 262,284
Spent to Date:	\$ 212,284	2024 - 2028 Planned Expenditures:	\$ 210,000
Cash flow through end of year:	\$ 50,000	Total Project Estimate:	\$ 472,284
Project Balance	\$ 44,063	Additional Funding Required	\$ 165,937

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Construction	\$ 1,960,000					\$ 1,960,000
FEMA Funding	\$ (1,750,000)					\$ (1,750,000)
TOTAL	\$ 210,000	\$ -	\$ -	\$ -	\$ -	\$ 210,000

Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%		\$165,937
			\$0
Total	100%		\$165,937

Funding Comments:

Project Number: 21081
Project Name: Motherlode Force Main Replacement Program
Project Category: Reliability & Service Level Improvements
Priority: 1 **PM:** Carrington **Board Approval:**

Project Description:

The Motherlode force main (MLFM) was originally constructed in 1977 and conveys wastewater from the El Dorado lift station approximately nine miles west to the Deer Creek Wastewater Treatment Plant. Six additional lift stations pump directly into the force main as well as several private lift stations. The MLFM was originally constructed with 12-inch asbestos cement pipe and has several peaks and valleys as it progresses through the terrain. As wastewater is pumped over the peaks in the force main, the high points regularly become empty and are susceptible to high levels of hydrogen sulfide gas corrosion. The long term impact of hydrogen sulfide gas exposure is varying levels of degradation in the pipe.

The project began construction in 2023. To date, approximately 50% of the forcemain has been replaced with larger diameter, plastic pipe. This project will replace approximately 3.3 miles of existing 12-inch asbestos cement pipe with 18-20-inch plastic pipe.

Basis for Priority:

Project is under construction.

Project Financial Summary:			
Funded to Date:	\$ 15,491,836	Expenditures through end of year:	\$ 7,756,264
Spent to Date:	\$ 756,264	2024 - 2028 Planned Expenditures:	\$ 5,000,000
Cash flow through end of year:	\$ 7,000,000	Total Project Estimate:	\$ 12,756,264
Project Balance	\$ 7,735,572	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design						\$ -
Environmental						\$ -
Construction	\$ 5,000,000					\$ 5,000,000
TOTAL	\$ 5,000,000	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000

Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: Camino Heights Wastewater Treatment Plant Disposal Improvements
Project Category: Regulatory Requirements
Priority: 1 **PM:** Carrington **Board Approval:**

Project Description:

The Camino Heights Wastewater Treatment Plant (CHWWTP) was originally constructed in 1964 and serves the Camino Heights subdivision and a small commercial area along Highway 50. The plant is comprised of headworks, pond system, disinfection, and irrigation system. The irrigation system is a combination of direct land application and sub-surface drip system. In recent years, storm events have caused excess influent flows at the treatment plant as well as difficulty with effluent disposal due to saturated soil conditions. Operations staff has relied on pump trucks to haul excess flow to the Deer Creek sewer system for disposal. A recent State Resources Control Board inquiry letter required the District to reconcile the approved discharge methods with alternative methods used during storm events. A new wet weather water balance was performed and improvement alternatives to align CHWWTP with approved discharge methods have been developed.

This project will include funding necessary to engage with regulatory agencies, perform preliminary geotechnical studies, and develop construction plans and specifications for bidding. Because project development is conceptual at this time, construction expenditures are not included. Once regulatory and study efforts are complete, construction expenditures will be programmed into the Capital Improvement Plan.

Basis for Priority:

This project will respond to a regulatory compliance inquiry from the State Water Resources Control Board.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 350,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 350,000
Project Balance	\$ -	Additional Funding Required	\$ 350,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 150,000	\$ 150,000			\$ 300,000
Environmental			\$ 50,000			\$ 50,000
Construction						\$ -
TOTAL	\$ -	\$ 150,000	\$ 200,000	\$ -	\$ -	\$ 350,000

Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: PLANNED
Project Name: Collections Pipeline Replacement and Rehabilitation Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Delongchamp **Board Approval:**

Project Description:

The District owns and operates four collection systems within El Dorado County. Aging infrastructure and limited funding necessitates active inspection and assessment of the collection system. This program will systematically develop projects to replace or rehabilitate the most critical infrastructure within the wastewater collection systems including, but not limited to pipelines and appurtenances.

Basis for Priority:

This programmatic project will replace or rehabilitate the most critical aging infrastructure in the collection system. One significant spill to waters of the state could cost the District \$10 per gallon in fines.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 5,500,000
Cash flow through end of year:		Total Project Estimate:	\$ 5,500,000
Project Balance	\$ -	Additional Funding Required	\$ 5,500,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 150,000		\$ 150,000		\$ 300,000
Environmental		\$ 100,000		\$ 100,000		\$ 200,000
Construction	\$ 2,500,000		\$ 1,250,000		\$ 1,250,000	\$ 5,000,000
TOTAL	\$ 2,500,000	\$ 250,000	\$ 1,250,000	\$ 250,000	\$ 1,250,000	\$ 5,500,000

Estimated Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$2,500,000
Total	100%		\$2,500,000

Funding Comments:

Project Number: PLANNED
Project Name: Collections SCADA and PLC Upgrade Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

This program is to upgrade overall communication at the remote lift station sites. Initially, the program will implement required updates to the collections system back-end SCADA application. Once back-end programming is complete, user interface programming and replacement of end of life PLC and radio equipment at the remote lift station sites will be completed.

Basis for Priority:

The project will update the system to today's industry standards and improve reliability of a critical wastewater equipment.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 1,100,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 1,100,000
Project Balance	\$ -	Additional Funding Required	\$ 1,100,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 200,000	\$ 100,000				\$ 300,000
Environmental	\$ 50,000					\$ 50,000
Construction	\$ 150,000	\$ 300,000	\$ 300,000			\$ 750,000
						\$ -
TOTAL	\$ 400,000	\$ 400,000	\$ 300,000	\$ -	\$ -	\$ 1,100,000

Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%		\$400,000
			\$0
Total	100%		\$400,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: **PLANNED**
 Project Name: **DCWWTP PLC Replacement Program**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **Leanos** Board Approval:

Project Description:

This project is to replace remaining aged PLC controllers at the facility. The spare parts are becoming scarce and very expensive to repair. This project will replace and reprogram the end of life PLC hardware and associated SCADA application at DCWWTP.

Basis for Priority:

Replace end of life cycle SCADA hardware, ensure service reliability and to reduce problem areas of the SCADA system causing overtime.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 450,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 450,000
Project Balance	\$ -	Additional Funding Required	\$ 450,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Professional Services		\$ 75,000	\$ 75,000	\$ 75,000		\$ 225,000
Construction		\$ 50,000	\$ 50,000	\$ 50,000		\$ 150,000
Capitalized Labor		\$ 25,000	\$ 25,000	\$ 25,000		\$ 75,000
						\$ -
TOTAL	\$ -	\$ 150,000	\$ 150,000	\$ 150,000	\$ -	\$ 450,000

Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: DCWWTP Process Control Device Integration
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

This funding is designated to install process control hardware and instrumentation; project will provide system integration of existing monitoring and control devices; project will replace monitoring and control devices that are past the end of life cycle. The upgrades will aid in facility operations and improve efficiency of the system. DCWWTP lacks instrumentation and control devices in certain key areas of the plant. The improvements will contribute in energy savings at the plant. DCWWTP SCADA system lacks integration with CHWWTP, recycled water and radio system. This project will address needed remote facility integration and allow remote operations.

Basis for Priority:

CIP to replace end of life cycle SCADA hardware, ensure service reliability and to reduce problem areas of the SCADA system causing overtime.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 150,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 150,000
Project Balance	\$ -	Additional Funding Required	\$ 150,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Hardware	\$ 35,000	\$ 35,000				\$ 70,000
Capitalized Labor	\$ 15,000	\$ 15,000				\$ 30,000
Professional Services	\$ 25,000	\$ 25,000				\$ 50,000
						\$ -
TOTAL	\$ 75,000	\$ 75,000	\$ -	\$ -	\$ -	\$ 150,000

Estimated Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%		\$75,000
			\$0
Total	100%		\$75,000

Funding Comments: The project replaces existing facilities, therefore is funded by wastewater rates.

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: PLANNED
 Project Name: EDHWWTP PLC Replacement Project
 Project Category: Reliability & Service Level Improvements
 Priority: 2 PM: TBD Board Approval:

Project Description:

Replacement of end of life PLC equipment at the El Dorado Hills Wastewater Treatment Plant.

Basis for Priority:

This project will replace end-of-life assets to ensure reliability and continual operation of the communication network servicing the El Dorado Hills Wastewater Treatment Plant.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 1,100,000
Cash flow through end of year:		Total Project Estimate:	\$ 1,100,000
Project Balance	\$ -	Additional Funding Required	\$ 1,100,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 250,000				\$ 250,000
Environmental		\$ 50,000				\$ 50,000
Construction			\$ 400,000	\$ 400,000		\$ 800,000
TOTAL	\$ -	\$ 300,000	\$ 400,000	\$ 400,000	\$ -	\$ 1,100,000

Estimated Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%	\$	-
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: **PLANNED**
 Project Name: **El Dorado Hills Lift Station Consolidation**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **TBD** Board Approval:

Project Description:

The 2019 El Dorado Hills Collection System Modeling Project identified capacity issues within the system as well as lift station consolidation opportunities. Six lift stations on the western side of El Dorado Hills, bordering Folsom Lake, can potentially be consolidated to a larger lift station near the Brown's Ravine area. This project includes a Basis of Design Report to identify and describe necessary improvements to consolidate the six lift stations and compare to the alternative of continual operation and upgrades of the existing stations independently.

Basis for Priority:

Project will investigate operational efficiencies and methods to reduce Capital Improvement Expenditures via consolidating lift stations.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 300,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 300,000
Project Balance	\$ -	Additional Funding Required	\$ 300,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 150,000	\$ 50,000			\$ 200,000
Environmental			\$ 100,000			\$ 100,000
Construction						\$ -
TOTAL	\$ -	\$ 150,000	\$ 150,000	\$ -	\$ -	\$ 300,000

Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%		\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: El Dorado Lift Station Site Improvements
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

The El Dorado lift station is located adjacent to Pleasant Valley Road in the town of El Dorado. The site has a large vacant area that is currently used to store spare pipe segments and appurtenances for routine or emergency repairs of the collection system. This project will dedicate funding to design and construct material storage bays and improve access to the site. Additionally, the existing wastewater vector dump station will be improved for maneuverability and odor containment.

Basis for Priority:

Improve efficiency and provide safe and adequate storage.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 250,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 250,000
Project Balance	\$ -	Additional Funding Required	\$ 250,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design			\$ 200,000			\$ 200,000
Environmental			\$ 50,000			\$ 50,000
Construction						\$ -
TOTAL	\$ -	\$ -	\$ 250,000	\$ -	\$ -	\$ 250,000

Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: PLANNED
Project Name: Ponderosa Heights Force Main Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

The Ponderosa Heights force main was originally constructed in 19XX to convey wastewater from the Ponderosa Heights lift station in Shingle Springs. During exploratory activities, staff discovered the asbestos cement force main pipe in a degraded condition and is in need of replacement.

Basis for Priority:

This project will replace failing assets to ensure reliability and continual operation of the wastewater collection system.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 1,750,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 1,750,000
Project Balance	\$ -	Additional Funding Required	\$ 1,750,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 200,000				\$ 200,000
Environmental		\$ 50,000				\$ 50,000
Construction			\$ 750,000	\$ 750,000		\$ 1,500,000
TOTAL	\$ -	\$ 250,000	\$ 750,000	\$ 750,000	\$ -	\$ 1,750,000

Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: Promontory Village Inflow & Infiltration Study
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

The 2020 update of the El Dorado Hills Collection System Hydraulic Model indicated capacity issues in the Promontory Village subdivision. Flow monitoring indicates higher than normal peak flow rates which is typically due to inflow and infiltration (I&) within the collection system. If location(s) of I&I are determined then improvements will be focused on reducing peak wet weather flow rather than more costly system upgrades.

Basis for Priority:

The collection system model identified these gravity sewer pipelines as having capacity limitations. Performing an I&I study will attempt to locate the source of additional flows during storm events. If the capacity limitations are not corrected, sanitary sewer overflows could occur and future connections to the collection system will be limited.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 125,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 125,000
Project Balance	\$ -	Additional Funding Required	\$ 125,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design				\$ 25,000	\$ 100,000	\$ 125,000
Environmental						\$ -
Construction						\$ -
TOTAL	\$ -	\$ -	\$ -	\$ 25,000	\$ 100,000	\$ 125,000

Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: **PLANNED**
 Project Name: **SCADA Wastewater Hardware Replacement Program**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **Leanos** Board Approval:

Project Description:

This funding is designated to be a rolling CIP to replace end of life cycle wastewater SCADA hardware District wide. This program would focus on replacing and reprogramming of the end of life PLC hardware and associated SCADA reconfigurations. Many sites are beyond the 15 year life expectancy for the PLC hardware.

Basis for Priority:

Rolling CIP to replace end of life cycle SCADA hardware, ensure service reliability and to reduce problem areas of the SCADA system causing overtime.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 500,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 500,000
Project Balance	\$ -	Additional Funding Required	\$ 500,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Hardware	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 200,000
Capitalized Labor	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 75,000
Professional Services	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 225,000
						\$ -
TOTAL	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 500,000

Estimated Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%		\$100,000
			\$0
Total	100%		\$100,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: PLANNED
Project Name: Wastewater Arc Flash Risk Assessment Program
Project Category: Regulatory Requirements
Priority: 1 **PM:** Leanos **Board Approval:**

Project Description:

This program is intended to comply with regulatory requirements imposed by OSHA in regards to electrical safety of qualified workers. Majority of the electrical equipment in the District is no longer in compliance with the current regulatory requirements and National Fire Protection Association code (NFPA 70E 2021 Standard for Electrical Safety in the Workplace). In order for District to comply and avoid potential fines, Arc Flash Risk Assessment needs to be performed for each District facility that contains electrical hazards. Due to large amount of facilities and electrical equipment, this compliance requirement cannot be completed in a single year and must be separated into manageable portions. This program will assure District stays in compliance.

Basis for Priority:

Maintain electrical safety regulatory requirements of OSHA and NFPA70E. Determine replacement and improvement strategy to support regulatory compliance, improve service reliability and safety. This study will protect and preserve the health and safety of employees and the public.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 250,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 250,000
Project Balance	\$ -	Additional Funding Required	\$ 250,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Professional Services	\$ 35,000	\$ 35,000	\$ 35,000	\$ 35,000	\$ 35,000	\$ 175,000
Capitalized Labor	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 75,000
						\$ -
						\$ -
TOTAL	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 250,000

Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%		\$50,000
			\$0
Total	100%		\$50,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: **PLANNED**
 Project Name: **Wastewater Asset Replacement Program**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **Delongchamp** Board Approval:

Project Description:

This is an annual program to replace wastewater assets that have failed or reached end of useful life. This program differs from ongoing maintenance programs in that the equipment, facilities, and labor attributed to these assets constitute a replacement of a capitalized asset. Assets to be replaced or upgraded under this program include, but are not limited to mechanical, electrical and instrumentation systems, treatment plant and lift station equipment, generators, and collection system assets that with replacement will extend the life of the associated system or facility. Items to be replaced each year will be prioritized using ongoing condition assessments and the asset management policies of the District.

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 2,500,000
Cash flow through end of year:		Total Project Estimate:	\$ 2,500,000
Project Balance	\$ -	Additional Funding Required	\$ 2,500,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design						\$ -
Environmental						\$ -
Construction	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 2,500,000
TOTAL	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 2,500,000

Estimated Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$500,000
Total	100%		\$500,000

Funding Comments:

Project Number: PLANNED
Project Name: Wastewater Collection System Hydraulic Modeling
Project Category: Reliability & Service Level Improvements
Priority: 3 **PM:** Carrington **Board Approval:**

Project Description:

The District commissioned two hydraulic modeling updates for the collection system; one for the El Dorado Hills system and one for the Deer Creek system. As new developments are presented to the District and as capital projects are completed, it is beneficial to update the model to confirm available capacity or update capacity on a system level.

Basis for Priority:

The collection system model identifies gravity sewer pipelines that have capacity limitations. If the capacity limitations are not corrected, sanitary sewer overflows could occur and future connections to the collection system will be limited.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 250,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 250,000
Project Balance	\$ -	Additional Funding Required	\$ 250,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 250,000
Environmental						\$ -
Construction						\$ -
TOTAL	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 250,000

Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$50,000
			\$0
Total	100%		\$50,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: **PLANNED**
 Project Name: **Wastewater Lift Station Upgrade Program**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **Carrington** Board Approval:

Project Description:

The District currently maintains sixty wastewater lift stations. Twenty-nine of these lift stations are within the Deer Creek shed, and the remaining thirty-one are in the El Dorado Hills shed.

The age, condition, and capacity of each station varies significantly. In order to prioritize rehabilitation and replacement efforts District staff will continue to assess and prioritize repairs at deficient lift stations.

Basis for Priority:

This project provides replacement of failing components at this critical facility; thereby providing safe, reliable collection system assets.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 5,525,000
Cash flow through end of year:		Total Project Estimate:	\$ 5,525,000
Project Balance	\$ -	Additional Funding Required	\$ 5,525,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 150,000	\$ 100,000	\$ 200,000		\$ 450,000
Environmental		\$ 25,000	\$ 25,000	\$ 25,000		\$ 75,000
Construction			\$ 1,500,000	\$ 1,250,000	\$ 2,250,000	\$ 5,000,000
TOTAL	\$ -	\$ 175,000	\$ 1,625,000	\$ 1,475,000	\$ 2,250,000	\$ 5,525,000

Estimated Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: PLANNED
Project Name: Wastewater Treatment Plant Assessments
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Eden-Bishop **Board Approval:**

Project Description:

The Deer Creek and El Dorado Hills Wastewater Treatment Plants were originally constructed in the 1960's and have undergone several expansions beginning in the early 1990's. This assessment will look at each of the plants individually and provide a roadmap for projects at the plants. Due to the overall age of the facilities, key elements of the existing treatment process need to be examined for rehabilitation or replacement to maintain permit compliance and capacity. The general goal and objectives are to review, evaluate, and assess the condition of the structures and equipment taking into account past and future maintenance activities and regulatory requirements. Additionally, recommendations will include timelines for use in future CIP projects, including budgetary level cost estimates for each recommendation offered. The assessments will be completed in phases similar to the recently completed Water Treatment Plant Assessments

Basis for Priority:

Determine replacement and improvement strategy to support regulatory compliance, improve service reliability, and reduce maintenance costs.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 700,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 700,000
Project Balance	\$ -	Additional Funding Required	\$ 700,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 200,000	\$ 250,000	\$ 250,000		\$ 700,000
Environmental						\$ -
Construction						\$ -
TOTAL	\$ -	\$ 200,000	\$ 250,000	\$ 250,000	\$ -	\$ 700,000

Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Wastewater

Project Number: **PLANNED**
 Project Name: **WWTP Process Improvement Program**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **Carrington** Board Approval:

Project Description:

This program is to perform minor modifications to civil, mechanical, and electrical components within the wastewater treatment plants. Modifications included in this program, but not limited to, variable frequency drives, cathodic protection, and reconfiguration of piping.

Basis for Priority:

This programmatic project will enhance reliability at the wastewater treatment plants.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 875,000
Cash flow through end of year:		Total Project Estimate:	\$ 875,000
Project Balance	\$ -	Additional Funding Required	\$ 875,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 125,000
Environmental						\$ -
Construction	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 750,000
TOTAL	\$ 175,000	\$ 175,000	\$ 175,000	\$ 175,000	\$ 175,000	\$ 875,000

Estimated Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%		\$175,000
			\$0
Total	100%		\$175,000

Funding Comments:

Project Number: PLANNED
Project Name: WWTP Solids Handling Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

The El Dorado Hills and Deer Creek Wastewater Treatment Plants both utilize a belt press to dewater solids from the treatment process. Both belt presses are past their useful life and are showing signs of deterioration. This project will analyze available solids handling technologies and construct a cost effective solution to replace the belt press units.

Basis for Priority:

This project will replace deteriorating assets at the wastewater treatment plants.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 4,300,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 4,300,000
Project Balance	\$ -	Additional Funding Required	\$ 4,300,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 250,000				\$ 250,000
Environmental		\$ 50,000				\$ 50,000
Construction			\$ 2,000,000	\$ 2,000,000		\$ 4,000,000
						\$ -
TOTAL	\$ -	\$ 300,000	\$ 2,000,000	\$ 2,000,000	\$ -	\$ 4,300,000

Funding Sources	Percentage	2024	Amount
Wastewater FCCs	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Recycled Water Projects

2024

CAPITAL IMPROVEMENT PLAN Program:

Recycled Water

Project Number: **PLANNED**
 Project Name: **Recycled Water Asset Program**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **Carrington** Board Approval:

Project Description:

This is an annual program to replace or upgrade recycled water assets and facilities that have failed, reached the end of useful life, or require increased operational efficiency or redundancy. The equipment, facilities, and labor attributed to these assets constitute a replacement or installation of a capitalized asset, which distinguishes this program from ongoing maintenance programs. Assets and facilities to be replaced or upgraded under this program include, but are not limited to, mechanical, electrical and instrumentation systems, pump station equipment, generators, and distribution system assets that with replacement or upgrade will extend the life of the associated system or facility. Items that need to be replaced or upgraded each year will be prioritized based on ongoing condition assessments and the District's asset management policies.

Basis for Priority:

Program purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 475,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 475,000
Project Balance	\$ -	Additional Funding Required	\$ 475,000

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Design	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 100,000
Environmental	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 25,000
Construction	\$ 50,000	\$ 150,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 350,000
TOTAL	\$ 75,000	\$ 175,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 475,000

Funding Sources	Percentage	2024	Amount
Recycled Water Rates	100%		\$75,000
			\$0
Total	100%		\$75,000

Funding Comments:

Project Number: PLANNED
Project Name: Recycled Water Distribution Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

The District owns and operates a recycled water distribution system that serves portions of El Dorado Hills and Cameron Park with reclaimed water. The recycled water system's original pipelines and appurtenances were installed in 1974 and are now in need of condition inspection and assessment to determine necessary replacements and improvements. This program will systematically develop projects to replace or rehabilitate most critical and high risk pipelines and appurtenances within the recycled distribution system.

Basis for Priority:

Program purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 925,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 925,000
Project Balance	\$ -	Additional Funding Required	\$ 925,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 45,000	\$ 100,000				\$ 145,000
Environmental	\$ 5,000	\$ 25,000				\$ 30,000
Construction			\$ 250,000	\$ 250,000	\$ 250,000	\$ 750,000
TOTAL	\$ 50,000	\$ 125,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 925,000

Funding Sources	Percentage	2024	Amount
Recycled Water Rates	100%		\$50,000
			\$0
Total	100%		\$50,000

Funding Comments:

Project Number: PLANNED
Project Name: Recycled Water Radio Path Design and Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Leanos **Board Approval:**

Project Description:

This CIP follows recommendations outlined in the SCADA masterplan. The radio path design would include radio study to determine the most optimal and reliable wireless communication options for the District's remote facilities. The design would include field radio path verification of the modeled radio telemetry design. This design will encompass recycled water facilities.

Basis for Priority:

Many remote facilities rely on antiquated serial radios. Quickly evolving technology requires EID to move to an IP based communication to retain maintainable parts. Performing large migrations without a proper design and proven concepts creates great risk for improper implementation.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 75,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 75,000
Project Balance	\$ -	Additional Funding Required	\$ 75,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 35,000				\$ 35,000
Construction		\$ 25,000				\$ 25,000
Capitalized Labor		\$ 15,000				\$ 15,000
						\$ -
TOTAL	\$ -	\$ 75,000	\$ -	\$ -	\$ -	\$ 75,000

Funding Sources	Percentage	2024	Amount
Recycled Water Rates	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN

Program:

Recycled Water

Project Number:

PLANNED

Project Name:

Recycled Storage Tank Replacement & Rehabilitation Program

Project Category:

Reliability & Service Level Improvements

Priority:

2

PM:

TBD

Board Approval:

Project Description:

This program consists of targeted replacement and rehabilitation of recycled water tanks tanks within the recycled water distribution system. The District operates 4 steel storage tanks, ranging in age from 14 to 21 years of age. This program is to identify specific tanks and reservoirs to rehabilitate, replace, or upgrade to maintain service reliability. This program also includes tank recoating for the welded storage tanks. Program management expenditures identified include prioritizing and designing each tank and reservoir improvement project. Actual replacement and recoating costs for each individual tank and reservoir will be brought to the Board for specific approval.

Basis for Priority:

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 4,172,074
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 4,172,074
Project Balance	\$ -	Additional Funding Required	\$ 4,172,074

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Design/Planning	\$ 75,000	\$ 100,000	\$ 100,000	\$ 100,000		\$ 375,000
Construction/structural	\$ 784,084	\$ 1,088,510	\$ 1,289,340	\$ 635,140		\$ 3,797,074
TOTAL	\$ 859,084	\$ 1,188,510	\$ 1,389,340	\$ 735,140	\$ -	\$ 4,172,074

Funding Sources	Percentage	2024	Amount
Recycled Water FCCs	100%		\$859,084
Total	100%		\$859,084

Funding Comments:

Hydroelectric Projects

Project Number: 17028
Project Name: Flume 48 Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

Flume 48 was originally constructed of wood in 1876 and supported by an un-mortared, hand-stacked rock bench located north of Highway 50 near Camp 5. In 1948, the wooden flume was completely replaced. District crews have been performing extensive maintenance work of the asset to extend the service life of the critically degraded structure until the full replacement can occur. The District is evaluating two replacement alternatives for this flume. Alternative 1 is to stabilize the hand-stacked rock bench utilizing stabilization measures and the degraded wood flume would be replaced with new concrete precast flume. Alternative 2 would be to construct a 500 foot tunnel between Flume 48 and Highway 50 and abandon approximately 700 feet of canal and 448 feet of elevated wood flume. Option 2, if feasible, could result in significantly lower construction costs but would require acquisition of an easement on an adjacent parcel and a FERC boundary adjustment. The District was able to purchase the parcel that the majority of the tunnel would be placed in 2018. This parcel will also be used as a staging area whether or not the tunnel option is feasible. A geotechnical study was conducted in 2019 and determined that Option 2 is feasible. During the design process the costs of Options 1 and 2 will be determined. The costs below reflect completing alternatives analysis and design to get the project ready for construction, however construction costs have been deferred assuming the Sly Park Intertie is constructed thereby increasing the reliability of the water system should we have an unplanned outage of the flume. Funding will be timed with a future bond issuance that is yet to be determined.

Basis for Priority:

The flumes will continue to deteriorate potentially causing flume failures that may result in significant impacts to the public, Highway 50, and the South Fork of the American River. Additionally, 1/3 of the District's water supply would be out of service for an extended period to make emergency repairs resulting in possible interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	\$ 461,912	Expenditures through end of year:	\$ 457,224
Spent to Date:	\$ 432,224	2024 - 2028 Planned Expenditures:	\$ 700,000
Cash flow through end of year:	\$ 25,000	Total Project Estimate:	\$ 1,157,224
Project Balance	\$ 4,688	Additional Funding Required	\$ 695,312

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 50,000	\$ 150,000	\$ 150,000	\$ 150,000		\$ 500,000
Environmental		\$ 50,000	\$ 100,000	\$ 50,000		\$ 200,000
Construction						\$ -
Warranty-FERC QCIP						\$ -
TOTAL	\$ 50,000	\$ 200,000	\$ 250,000	\$ 200,000	\$ -	\$ 700,000

Estimated Funding Sources	Percentage	2024	Amount
Bond	100%		\$45,312
			\$0
			\$0
Total	100%		\$45,312

Funding Comments:

Project Number: 18010
Project Name: Penstock Improvements
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Kessler **Board Approval:**

Project Description:

Water is provided from Forebay Reservoir to the El Dorado Powerhouse through a 60-inch diameter penstock for power generation. FERC regulations and our standard operating procedures require the penstock to be inspected and assessed at regular intervals. This project was initiated in 2015 to perform a comprehensive assessment of the penstock and determine if any upgrades or replacements need to be made for continued reliability. The condition assessment continued into 2017 and identified the following needed improvements:

- 1) Improving access in the steepest section of penstock to support conducting O&M and capital improvements safely
- 2) Restoring grounds across compression couplings in the low-pressure section of penstock;
- 3) Relining the interior of the surge tank and the buried section between the penstock tunnel and surge tank at welded joints where the original lining was applied in the field;
- 4) Investigating restoring the tramway to service along the high-pressure penstock;
- 5) Improving the anchoring of the surge tank to meet seismic loading;

Work planned for 2024 includes construction for improving access on the steepest section of the penstock; In addition, 2024 work will include preparing plans and specifications, and conducting environmental review/permitting for subsequent phases. Relining of the surge tank and portions of the penstock are scheduled for 2025. The cost of improvements beyond 2024 will be updated upon completion of design for later phases. Penstock stabilization is being planned and performed under CIP 21016.

Basis for Priority:

The project is to maintain penstock safety and service reliability. The ability for the District to receive an average \$4 million annually in power generation revenues depends on the availability of the penstock. The penstock is one of the highest pressure and oldest in the United States.

Project Financial Summary:			
Funded to Date:	\$ 360,000	Expenditures through end of year:	\$ 122,671
Spent to Date:	\$ 122,671	2024 - 2028 Planned Expenditures:	\$ 745,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 867,671
Project Balance	\$ 237,329	Additional Funding Required	\$ 507,671

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning	\$ 30,000	\$ 20,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 80,000
Design	\$ 50,000	\$ 50,000	\$ 60,000	\$ 50,000	\$ 50,000	\$ 260,000
Construction	\$ 120,000	\$ 130,000	\$ 115,000	\$ 20,000	\$ 20,000	\$ 405,000
						\$ -
TOTAL	\$ 200,000	\$ 200,000	\$ 185,000	\$ 80,000	\$ 80,000	\$ 745,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: 19021
Project Name: Canal RTU Replacement Control Sites
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Leanos **Board Approval:**

Project Description:

This project is to replace end of life cycle SCADA Hardware, specifically the Moscad L RTUs and level/flow measurement equipment. Replacement of alarm and spillway control sites located along the Project 184 canal. The current system has served the District well, unfortunately it is no longer supported by a modern computer. Costs will be revised when design is completed.

Basis for Priority:

This equipment is at the end of its life cycle and warrants replacement to retain the reliability and operational capabilities of the system. Additionally, new replacement parts are not available due to obsolescence. This system cannot be supported on a modern computer.

Project Financial Summary:

Funded to Date:	\$ 80,000	Expenditures through end of year:	\$ 48,214
Spent to Date:	\$ 48,214	2024 - 2028 Planned Expenditures:	\$ 1,125,000
Cash flow through end of year:		Total Project Estimate:	\$ 1,173,214
Project Balance	\$ 31,786	Additional Funding Required	\$ 1,093,214

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design/Planning	\$ 125,000					\$ 125,000
Construction		\$ 300,000	\$ 300,000	\$ 300,000		\$ 900,000
Capitalized Labor	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000		\$ 100,000
TOTAL	\$ 150,000	\$ 325,000	\$ 325,000	\$ 325,000	\$ -	\$ 1,125,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$118,214
			\$0
Total	100%		\$118,214

Funding Comments:

Project Number: 19024H
Project Name: Echo Conduit Rehabilitation
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Kessler **Board Approval:**

Project Description:

The Echo Conduit was installed in 1922 and is comprised of approximately 2,320 lineal feet of 36" diameter steel pipeline, 750 lineal feet of canal, and 1,106 lineal feet of tunnel. In 1953 and 1967, sections of the 36-inch diameter pipe were replaced. After experiencing a tunnel collapse in 2005, the timber-reinforced tunnel was lined with a 36" diameter HDPE pipeline, including filling the annular space with grout. The pipe is overall degraded and misshaped from snow load and rock fall, and is not a candidate for slip lining. While the pipeline has been maintained serviceable with weld repairs and neoprene patches held with steel band strapping, the extent of pipe wall thinning and deformation is resulting in diminishing options for repair. If the pipeline were to rupture, it could cause significant environmental damage, affect traffic safety on Highway 50 and diminish District water supplies for consumptive and power generation use. Typically over 1,500 acre feet of water is drawn from storage or directly diverted annually from Echo Lake for water supply and power generation. Conceptual engineering for the foundation, elevated section, pipeline, and consideration of constructability was completed in 2021.

Damage from snow load occurred during winter 2022/2023 necessitating emergency replacement of the trestle section consisting of 200 lf, and an additional on-grade section upstream for 400 lf. Planning, constructability and design for remaining sections of pipe including planning for pipe installation in the canal section is planned for 2024. Converting canal section to pipeline effectively improves capacity over the entire range of operating conditions, leading to fuller utilization of storage during the normal 3-week drawdown period between Labor Day and annual outage season starting in October. The construction schedule for replacing the balance of pipeline and installing pipe in the canal section will be established according to information gathered during annual condition assessments.

Basis for Priority:

Maintaining operability of Echo Conduit provides the District continued use of this pre-1914 water right for consumptive water supply and power generation. Replacing the conduit restores diminished capacity as has occurred over time, and improves the District's ability to utilize its storage and direct diversion water rights.

Project Financial Summary:

Funded to Date:	\$ 100,000	Expenditures through end of year:	\$ 86,579
Spent to Date:	\$ 86,579	2024 - 2028 Planned Expenditures:	\$ 80,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 166,579
Project Balance	\$ 13,421	Additional Funding Required	\$ 66,579

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning	\$ 30,000					\$ 30,000
Design	\$ 50,000					\$ 50,000
Construction						\$ -
						\$ -
TOTAL	\$ 80,000	\$ -	\$ -	\$ -	\$ -	\$ 80,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$66,579
			\$0
			\$0
Total	100%		\$66,579

Funding Comments:

Project Number: 19031
Project Name: Silver Lake Dam Replacement
Project Category: Regulatory Requirements
Priority: 1 **PM:** Kessler **Board Approval:**

Project Description:

The long-term reliability of the dam came into question in the spring of 2015 when a sink hole was discovered. In response, DSOD restricted the reservoir level, and the District conducted emergency repairs and a geotechnical investigation. The likely cause of the sink hole was the creation of voids in the dam as a result of rotting interior logs that have been encapsulated as fill and were part of the original rock and soil filled timber crib structure constructed in 1876. Other evidence of voids occurring within the fill of the dam is uneven crest settlement and shifting locations of leakage discharge. In addition, the upstream gunite face of Silver Lake Dam is at the end of its useful life and no longer reliable. Repairs have been employed since the late 1990's to stem leakage and extend the life of the 50-year old gunite. However, the gunite continues to thin, crack and crumble making repairs increasingly less durable and sustainable. Unforeseeable periods of leakage have also caused delayed filling or early drawdown of the reservoir resulting in loss of water supply and power generation. The leakage through the dam has to be controlled to acceptable rates in order to prevent creation of more voids in the dam as caused by soil particle migration (piping).

The District has evaluated rehabilitation/replacement alternatives to remediate the three major defects (upstream face, interior fill, spillway capacity). The alternatives analysis was submitted to FERC and DSOD in fall 2016, and District staff met with their representatives in January 2017. FERC and DSOD agreed with the District's preliminary findings that the most effective, reliable and least cost alternative is to replace the dam. The project will need to undergo a progression of design and environmental activities over the next several years. In 2022, the Design Criteria Memorandum and subsurface exploration plan was completed, and subsurface exploration was conducted by performing drilling and seismic refraction surveys to support the next phases of design. In 2023, 30% design and initial environmental review are being performed. The project will require environmental assessment under CEQA, NEPA and a FERC License Amendment, as well as various federal, state and local permits. As these steps and the design evolve to better define the project, the District will have a basis for estimating construction costs (preliminary estimate included at this time). Construction is scheduled for 2027. Funding is expected to be subject to a future bond issuance with possible grant support.

Basis for Priority:

Compliance with FERC and DSOD dam safety program requirements.

Project Financial Summary:

Funded to Date:	\$ 3,256,395	Expenditures through end of year:	\$ 844,419
Spent to Date:	\$ 744,419	2024 - 2028 Planned Expenditures:	\$ 49,880,000
Cash flow through end of year:	\$ 100,000	Total Project Estimate:	\$ 50,724,419
Project Balance	\$ 2,411,976	Additional Funding Required	\$ 47,468,024

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Environmental	\$200,000	\$300,000	\$ 700,000			\$ 1,200,000
Design/CM	\$500,000	\$ 1,680,000	\$ 1,500,000	\$ 2,500,000	\$ 2,500,000	\$ 8,680,000
Construction				\$ 20,000,000	\$ 20,000,000	\$ 40,000,000
TOTAL	\$ 700,000	\$ 1,980,000	\$ 2,200,000	\$ 22,500,000	\$ 22,500,000	\$ 49,880,000

Estimated Funding Sources	Percentage	2024	Amount
Bond	100%		\$0
			\$0
Total	100%		\$0

Funding Comments: Seeking Grant opportunities; Construction Cost is Order-of-Magnitude until 30% Design is completed in September

2024

CAPITAL IMPROVEMENT PLAN Program:

Hydroelectric

Project Number: 21003
 Project Name: Diversion Repeater Site
 Project Category: Reliability & Service Level Improvements
 Priority: 3 PM: Leanos Board Approval:

Project Description:

The project is to design and implement more reliable communication path for the diversion facility and for the Project 184 upper country radio system. The repeater site would serve as a primary communication pathway and would be independent of unreliable service from PG&E and AT&T.

Basis for Priority:

The project will improve reliability of a critical water facility.

Project Financial Summary:			
Funded to Date:	\$ 50,000	Expenditures through end of year:	\$ 3,194
Spent to Date:	\$ 3,194	2024 - 2028 Planned Expenditures:	\$ 175,000
Cash flow through end of year:		Total Project Estimate:	\$ 178,194
Project Balance	\$ 46,806	Additional Funding Required	\$ 128,194

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 25,000					\$ 25,000
Construction	\$ 100,000					\$ 100,000
Capitalized Labor	\$ 50,000					\$ 50,000
						\$ -
TOTAL	\$ 175,000	\$ -	\$ -	\$ -	\$ -	\$ 175,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$128,194
			\$0
			\$0
Total	100%		\$128,194

Funding Comments:

Project Number: 21004
Project Name: A18 Fiber Communication Improvements
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

This project is to install fiber optic line from the new A18 building to the Upper Butterfly Valve House. Second phase of the project will replace end of life cycle fiber optic line that spans to the Powerhouse. The new fiber optic line will drastically improve the efficiency and reliability of the powerhouse operation and maintaining the Forebay lake level.

Basis for Priority:

This equipment is at the end of its life cycle and warrants replacement to retain the reliability and operational capabilities of the system. The existing fiber is aged and has no available spare fiber pairs.

Project Financial Summary:

Funded to Date:	\$ 50,000	Expenditures through end of year:	\$ 3,974
Spent to Date:	\$ 3,974	2024 - 2028 Planned Expenditures:	\$ 300,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 303,974
Project Balance	\$ 46,026	Additional Funding Required	\$ 253,974

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Professional Services	\$ 50,000					\$ 50,000
Construction	\$ 200,000					\$ 200,000
Capitalized Labor	\$ 50,000					\$ 50,000
						\$ -
TOTAL	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ 300,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$253,974
			\$0
			\$0
Total	100%		\$253,974

Funding Comments:

Project Number: 21008
Project Name: Diversion - Facility Upgrades
Project Category: Reliability & Service Level Improvements
Priority: 1 **PM:** Delongchamp **Board Approval:**

Project Description:

The project is to implement a more reliable power distribution from utility and backup generator. Currently the site has multiple voltage feeds, large voltage swings and suffers from load imbalances. The load imbalance and voltage swings are causing faster equipment degradation and increasing maintenance cost. Consolidating power to a single feed will alleviate the current problems and improve reliability of the site. The current generator is no longer sized adequately for the current load at the facility. This project will include installation of a larger generator. Other facility improvements include relocating the air compressor/fish screen blower system outside of the existing control room to reduce heat load to electrical and network equipment and enclosing the compressor tank to prevent temperature issues.

The project was awarded for Construction in April 2023. The building and generator will be installed in the fall of 2023. Construction is expected to continue into spring of 2024 due to electrical procurement issues.

Basis for Priority:

The project will improve reliability and improve operational capabilities of a critical water facility. This project started Construction in September 2023.

Project Financial Summary:

Funded to Date:	\$ 1,378,727	Expenditures through end of year:	\$ 1,075,271
Spent to Date:	\$ 275,271	2024 - 2028 Planned Expenditures:	\$ 300,000
Cash flow through end of year:	\$ 800,000	Total Project Estimate:	\$ 1,375,271
Project Balance	\$ 303,456	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Capitalized Labor	\$ 50,000					\$ 50,000
Construction Inspection	\$ 50,000					\$ 50,000
Construction	\$ 200,000					\$ 200,000
						\$ -
TOTAL	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ 300,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: 21009
Project Name: Diversion - Fish Ladder Improvements
Project Category: Reliability & Service Level Improvements
Priority: 3 **PM:** Kelsch **Board Approval:**

Project Description:

The project is to design and add a new flow meter to precisely and more instantaneously measure instream flow releases reducing the over-release caused by the existing controls, and increasing the water that can be diverted into the El Dorado Canal and improve the fish ladder as required by CA Dept. of Fish & Wildlife. Schedule and costs will be updated as the project progresses.

Basis for Priority:

The project will improve reliability and improve operational capabilities of a critical water facility.

Project Financial Summary:			
Funded to Date:	\$ 50,000	Expenditures through end of year:	\$ 20,093
Spent to Date:	\$ 20,093	2024 - 2028 Planned Expenditures:	\$ 100,000
Cash flow through end of year:		Total Project Estimate:	\$ 120,093
Project Balance	\$ 29,907	Additional Funding Required	\$ 70,093

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Permitting		\$ 50,000				\$ 50,000
Design/Permitting			\$ 50,000			\$ 50,000
Construction						\$ -
						\$ -
TOTAL	\$ -	\$ 50,000	\$ 50,000	\$ -	\$ -	\$ 100,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: 21013
Project Name: Flumes 45A, 46A, 47A, and 47B Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

The CIP will seek design services for Flume 45A, 46A, 47A, and 47B. These four flumes are similar in nature in that they are between 128 to 200 foot long elevated flumes located on previous landslide locations. A brief description of the flumes are as follows:

- Flume 45A is 155 feet in length and is constructed of wood supports with fiberglass flume section and was last replaced in 2001.
- Flume 46A is 128 feet in length and is a wood flume with timber supports and was last replaced in 2011.
- Flume 47A is 201 feet in length and is a wood flume with timber supports and was last replaced in 1990.
- Flume 47b is 128 feet in length and is a wood flume with timber supports and was last replaced in 1990.

Since these flumes are similar in nature one general design has been done for all four flumes. Priority and costs were developed with the Canal and Flume Assessment Studies. Costs will be updated as design progresses.

Basis for Priority:

The flumes will continue to deteriorate potentially causing flume failures that would result in significant impacts to the public, Highway 50, and the South Fork of the American River. Additionally, 1/3 of the Districts water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	\$ 553,268	Expenditures through end of year:	\$ 386,802
Spent to Date:	\$ 386,802	2024 - 2028 Planned Expenditures:	\$ 2,000,000
Cash flow through end of year:		Total Project Estimate:	\$ 2,386,802
Project Balance	\$ 166,466	Additional Funding Required	\$ 1,833,534

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Construction 45A						\$ -
Construction 46A						\$ -
Construction 47A						\$ -
Construction 47B					\$ 2,000,000	\$ 2,000,000
TOTAL	\$ -	\$ -	\$ -	\$ -	\$ 2,000,000	\$ 2,000,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: 21016
Project Name: Penstock Stabilization
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Kessler **Board Approval:**

Project Description:

Water is provided from Forebay Reservoir to the El Dorado Powerhouse through a 60-inch diameter penstock for power generation. The penstock tapers and bifurcates as it approaches the powerhouse. FERC regulations and our standard operating procedures require the penstock condition and suitability for reliable service to be assessed through inspection and comprehensive evaluations at regular intervals. This project was initiated in 2015 to perform a comprehensive assessment of the penstock and determine if any upgrades or replacements need to be made for continued reliability. The condition assessment continued into 2017 and identified the following needed improvements under this Penstock Stabilization CIP:

- 1) Stabilizing the bench and slopes above and below the penstock downstream of the penstock tunnel section where rockfall and landslide potential exists - planned for 2025;
- 2) Performing drainage improvements to the high-pressure penstock section where a channel continues to erode including around saddles and anchor blocks - planned for 2025

The geotechnical assessment and design are in-progress, and will continue into early 2024. Concurrently, the District will conduct environmental review/permitting such that stabilization and drainage improvements can be constructed in 2025. Other penstock improvements are being planned and performed under CIP 18010.

Basis for Priority:

The project is to maintain penstock stabilization and service reliability. The ability for the District to receive an average \$4 million annually in power generation revenues depends on the reliability of the penstock. The high-head section of penstock operates up to 830 psi, and is the original hammer-forge welded steel pipe installed in 1924.

Project Financial Summary:			
Funded to Date:	\$ 400,611	Expenditures through end of year:	\$ 170,840
Spent to Date:	\$ 170,840	2024 - 2028 Planned Expenditures:	\$ 770,000
Cash flow through end of year:		Total Project Estimate:	\$ 940,840
Project Balance	\$ 229,771	Additional Funding Required	\$ 540,229

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning	\$ 30,000	\$ 20,000	\$ 10,000			\$ 60,000
Design	\$ 50,000	\$ 50,000	\$ 60,000			\$ 160,000
Construction		\$ 450,000	\$ 100,000			\$ 550,000
						\$ -
TOTAL	\$ 80,000	\$ 520,000	\$ 170,000	\$ -	\$ -	\$ 770,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: 21028
Project Name: Powerhouse Automation Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Leanos **Board Approval:**

Project Description:

The project is to design, replace and reprogram end of life hydro-turbine governors, PLC hardware, and related SCADA reconfigurations.

Basis for Priority:

The project will enhance reliability of a critical power generation facility. This hardware is failing, and posing a service reliability and maintenance issue. The life of this equipment is cycling out. The original installation took place over 25 years ago. Parts for these units are no longer manufactured, and they are difficult to service.

Project Financial Summary:			
Funded to Date:	\$ 269,460	Expenditures through end of year:	\$ 266,792
Spent to Date:	\$ 126,792	2024 - 2028 Planned Expenditures:	\$ 575,000
Cash flow through end of year:	\$ 140,000	Total Project Estimate:	\$ 841,792
Project Balance	\$ 2,668	Additional Funding Required	\$ 572,332

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design						\$ -
Construction		\$ 500,000				\$ 500,000
Capitalized Labor	\$ 75,000					\$ 75,000
TOTAL	\$ 75,000	\$ 500,000	\$ -	\$ -	\$ -	\$ 575,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$72,332
			\$0
			\$0
Total	100%		\$72,332

Funding Comments:

Project Number: 22014
Project Name: Flume 45 Section 3 Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

This section of Flume 45 is an elevated wood flume approximately 940 feet in length and last replaced in 2001. This portion of the flume was constructed to span a section of the historic rock bench that had previously failed and replaced by PG&E. Because of the historic rock wall, the design will need to be approved by the State Historic Preservation Office. The design will be finalized and the wall will be monitored until construction funding is scheduled.

Basis for Priority:

The flume will continue to deteriorate potentially causing flume failures that would result in significant impacts to the public, Highway 50, and the South Fork of the American River. Additionally, water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:

Funded to Date:	\$ 776,523	Expenditures through end of year:	\$ 407,250
Spent to Date:	\$ 257,250	2024 - 2028 Planned Expenditures:	\$ 540,000
Cash flow through end of year:	\$ 150,000	Total Project Estimate:	\$ 947,250
Project Balance	\$ 369,273	Additional Funding Required	\$ 170,727

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 400,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 440,000
Environmental	\$ 100,000					\$ 100,000
Construction						\$ -
						\$ -
TOTAL	\$ 500,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 540,000

Funding Sources	Percentage	2024	Amount
Bond	100%		\$130,727
			\$0
			\$0
Total	100%		\$130,727

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN

Program:

Hydroelectric

Project Number:

22030

Project Name:

Flume 47A Replacement

Project Category:

Reliability & Service Level Improvements

Priority:

2

PM:

Carrington

Board Approval:

Project Description:

Flume 47A is a wood flume with timber supports approximately 201 feet in length and last replaced in 1990. Design is complete and the replacement of this flume section is scheduled to occur during the 2024 scheduled canal outage.

Basis for Priority:

The flumes will continue to deteriorate potentially causing flume failures that would result in significant impacts to the public, Highway 50, and the South Fork of the American River. Additionally, 1/3 of the Districts water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	\$ 100,000	Expenditures through end of year:	\$ 40,924
Spent to Date:	\$ 30,924	2024 - 2028 Planned Expenditures:	\$ 3,200,000
Cash flow through end of year:	\$ 10,000	Total Project Estimate:	\$ 3,240,924
Project Balance	\$ 59,076	Additional Funding Required	\$ 3,140,924

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Study/Planning						\$ -
Design						\$ -
Construction	\$ 3,200,000					\$ 3,200,000
						\$ -
TOTAL	\$ 3,200,000	\$ -	\$ -	\$ -	\$ -	\$ 3,200,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$3,140,924
			\$0
			\$0
Total	100%		\$3,140,924

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN

Program:

Hydroelectric

Project Number:

23016

Project Name:

Camp 2 Structure

Project Category:

Reliability & Service Level Improvements

Priority:

2

PM:

TBD

Board Approval:

Project Description:

The District maintained a residence at Camp 2, near the Plum Creek siphon, along Project 184. This residence burned in 2021 during the Caldor Fire. The Camp 2 location is critical for accessing Plum Creek Siphon House as well as an access point for the Project 184 conveyance system. Staff desires to rebuild a structure for storage adjoined with a warming shed, water, and wastewater service in lieu of a full residence. This project will include design, necessary permits, and construction of the Camp 2 Structure. District staff anticipates insurance reimbursement.

Basis for Priority:

This project will replace a damaged asset necessary for the operation and maintenance of Project 184.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 250,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 250,000
Project Balance	\$ -	Additional Funding Required	\$ 250,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design			\$ 75,000			\$ 75,000
Environmental			\$ 25,000			\$ 25,000
Construction			\$ 150,000			\$ 150,000
						\$ -
TOTAL	\$ -	\$ -	\$ 250,000	\$ -	\$ -	\$ 250,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: Diversion - A11 Flow Control
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

The project is to implement a more reliable and accurate flow control method. The site currently has two over sized gates the struggle and regularly fail to control the facility during low flow periods. After hours time is required of staff to regualy troubleshoot and keep in service gates 1 & 2 of the canal flow.

A study was done by Water Works Engineering to determine the correct gate sizes and the limitations of the current gates. Their study confirmed that the acutators that are installed are in fact being used in an incorrect application and that the gates are too big to shave off the revenue generating flow that the Disitric requires during low flow periods. Their study recommends to add a third smaller gate to be used as a fine tuning device during low flows. Reinforcement of the existing dam will be required.

Costs have been updated based on final design and the design engineers estimate. Project is scheduled to bid early next year for a Fall construction.

Basis for Priority:

The project will improve reliability and improve operational capabilities of a critical water facility.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 80,000
Cash flow through end of year:		Total Project Estimate:	\$ 80,000
Project Balance	\$ -	Additional Funding Required	\$ 80,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design	\$ 5,000					\$ 5,000
Construction	\$ 75,000					\$ 75,000
						\$ -
TOTAL	\$ 80,000	\$ -	\$ -	\$ -	\$ -	\$ 80,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$80,000
			\$0
			\$0
Total	100%		\$80,000

Funding Comments:

Project Number: **PLANNED**

Project Name: **14 Mile Tunnel Improvements**

Project Category: **Reliability & Service Level Improvements**

Priority: **2** **PM:** **TBD** **Board Approval:**

Project Description:

14-Mile Tunnel is approximately 490 feet long and delivers water from the Project 184 canal, underneath Forebay Road to the Forebay Reservoir. Due to water intrusion, the concrete near the upstream portal is beginning to weaken. The project will stabilize this section of the tunnel after the approved Forebay waterline replacement should eliminate the water intrusion. Construction cost estimates will be refined as the design progresses.

Basis for Priority:

The degradation of the existing concrete will continue to weaken the tunnel support and will lead to the failure of the upstream portion of the tunnel. This failure will mean that 1/3 of the Districts water supply will not be able to get to Forebay Reservoir for water consumption and hydroelectric generation.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 2,200,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 2,200,000
Project Balance	\$ -	Additional Funding Required	\$ 2,200,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design	\$ 200,000					\$ 200,000
Construction		\$ 2,000,000				\$ 2,000,000
						\$ -
TOTAL	\$ 200,000	\$ 2,000,000	\$ -	\$ -	\$ -	\$ 2,200,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$200,000
			\$0
			\$0
Total	100%		\$200,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Hydroelectric

Project Number: PLANNED
Project Name: Annual Canal and Flume Improvements Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** M. Heape **Board Approval:**

Project Description:

Canals and flumes are assessed annually by District staff to assess and prioritize necessary improvements that will be implemented during the annual Canal outage. These improvements are needed to extend the service life of the asset and maintain system reliability. Improvements to the degraded canal and flume sections include materials, concrete, shotcrete, helicopter support, equipment, and District crew labor. Canal rehabilitation, flume, and spillway improvements are necessary in order to maintain reliability of the water supply. Annual system improvements will be determined by District Hydro Operations each spring for implementation to be achieved during the scheduled Canal outage. Expenditures for 2024, 2025, 2026, 2027, 2028 will include \$75,000 for canal & flume maintenance such as re-lining and concrete repairs. Expenditures for 2024, will include \$425,000 for canal & flume maintenance such as re-lining and concrete repairs. Expenditures for 2025, 2026, 2027, and 2028 will include \$300,000 for canal & flume maintenance such as re-lining and concrete repairs.

Basis for Priority:

These are projects that provide measurable advancement towards attaining the objectives of the District, but over which the District has a moderate level of control as to when they should be performed.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ 93,340
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 1,625,000
Cash flow through end of year:	\$ 93,340	Total Project Estimate:	\$ 1,718,340
Project Balance	\$ 363,994	Additional Funding Required	\$ 1,261,006

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design						\$ -
Construction	\$ 425,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 1,625,000
						\$ -
TOTAL	\$ 425,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 1,625,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$61,006
			\$0
			\$0
Total	100%		\$61,006

Funding Comments:

Project Number: PLANNED
Project Name: Annual Reservoir and Dam Improvements Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** M. Heape **Board Approval:**

Project Description:

The District dams and reservoirs are in need of upgrades to extend their life and comply with safety standards. Many of these improvements are follow-up items/requirements resulting from inspections performed by staff, FERC and DSOD dam safety personnel in order to meet dam safety standards. Work planned for 2024 includes the following:

- Caples Lake Auxiliary Dam - Repair spalling concrete (\$30K)
- Echo Lake - Restore rock armoring at the base of the upstream gunite face to eliminate undercutting by wave action (\$35K)
- Weber Dam - Rehabilitate upstream dam face (\$20K)
- Lake Aloha Dam - Develop plan for adding remote control to outlet gate (\$30K)

Repair spalling to Stream Gage Weirs A-6 in Caples Creek and A-9 in Silver Fork American River (\$50K)

For 2025, 2026, 2027, and 2028 funds will be used to conduct minor repairs on the dams as warranted.

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 365,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 365,000
Project Balance	\$ -	Additional Funding Required	\$ 365,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning	\$ 30,000					\$ 30,000
Design						\$ -
Construction	\$ 135,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 335,000
						\$ -
TOTAL	\$ 165,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 365,000

Estimated Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$165,000
			\$0
			\$0
Total	100%		\$165,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Hydroelectric

Project Number: **PLANNED**
 Project Name: **Camp 5 Generator Replacement**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **TBD** Board Approval:

Project Description:

The project is to design and implement more reliable power distribution from utility and backup generator. The site currently has multiple voltage feeds, large voltage swings, and suffers from load imbalances. The load imbalance and voltage swings are accelerating equipment degradation and increasing maintenance cost. The current generator is no longer sized adequately for the current load at the facility. This project would require installation of a larger generator.

Basis for Priority:

The project will improve power reliability to the facility.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 300,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 300,000
Project Balance	\$ -	Additional Funding Required	\$ 300,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 50,000				\$ 50,000
Construction			\$ 250,000			\$ 250,000
						\$ -
TOTAL	\$ -	\$ 50,000	\$ 250,000	\$ -	\$ -	\$ 300,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: Ditch SCADA Hardware Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Leanos **Board Approval:**

Project Description:

This project is to replace end of life cycle SCADA Hardware, specifically the Moscad L RTUs and level/flow measurement equipment. Replacement sites are: Crawford Ditch, North Fork Ditch, Camp Creek Ditch, and associated repeater radio system at Reservoir B. This system has served the district well and is no longer supported. This CIP will replace the existing system over multiple years.

Basis for Priority:

This equipment is at the end of its life cycle and warrants replacement to retain the reliability of the system. Additionally, new replacement parts are not available due to obsolescence. This system is not longer supported on a modern computer.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 200,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 200,000
Project Balance	\$ -	Additional Funding Required	\$ 200,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design			\$ 50,000			\$ 50,000
Construction				\$ 150,000		\$ 150,000
TOTAL	\$ -	\$ -	\$ 50,000	\$ 150,000	\$ -	\$ 200,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%	\$	-
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Hydroelectric

Project Number: **PLANNED**
 Project Name: **Flume 4 Replacement**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **TBD** Board Approval:

Project Description:

Flume 4 is approximately 200 feet in length and is an elevated flume that spans a steep portion of the forest. This elevated section could not be quickly replaced after the Caldor Fire and thus underwent repairs. The wood substructure was constructed in 1993 and the wood members are currently undersized. In addition to the elevated section, there is just upstream of Flume 4 a section of canal that has a rock cribbed wall that has experienced a failure in 2022. This cribbed wall would be replaced with an MSE wall and have the drainage system upgraded. Funding is to initiate design in 2024. No construction costs are indicated.

Basis for Priority:

Fume 4 will continue to deteriorate potentially cause a flume failures that would result in significant impacts to the public and the South Fork of the American River. Additionally, 1/3 of the Districts water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 500,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 500,000
Project Balance	\$ -	Additional Funding Required	\$ 500,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning		\$ 50,000				\$ 50,000
Design		\$ 200,000	\$ 250,000			\$ 450,000
Construction						\$ -
						\$ -
TOTAL	\$ -	\$ 250,000	\$ 250,000	\$ -	\$ -	\$ 500,000

Funding Sources	Percentage	2024	Amount
Water FCC's	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: Hydro Arc Flash Risk Assessment Program
Project Category: Regulatory Requirements
Priority: 1 **PM:** Leanos **Board Approval:**

Project Description:

This program is intended to comply with regulatory requirements imposed by OSHA in regards to electrical safety of qualified workers. Majority of the electrical equipment in the District is no longer in compliance with the current regulatory requirements and National Fire Protection Association code (NFPA 70E 2021 Standard for Electrical Safety in the Workplace). In order for the District to comply and avoid potential fines, Arc Flash Risk Assessment needs to be performed for each District facility that contains electrical hazards. Due to large amount of facilities and electrical equipment, this compliance requirement cannot be completed in a single year and must be separated into manageable portions. This program will assure District stays in compliance.

Basis for Priority:

Maintain electrical safety regulatory requirements of OSHA and NFPA70E. Determine replacement and improvement strategy to support regulatory compliance, improve service reliability and safety. This study will protect and preserve the health and safety of employees and the public.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 215,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 215,000
Project Balance	\$ -	Additional Funding Required	\$ 215,000

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Professional Services	\$ 35,000	\$ 50,000	\$ 35,000	\$ -	\$ 35,000	\$ 155,000
Capitalized Labor	\$ 15,000	\$ 15,000	\$ 15,000	\$ -	\$ 15,000	\$ 60,000
						\$ -
						\$ -
TOTAL	\$ 50,000	\$ 65,000	\$ 50,000	\$ -	\$ 50,000	\$ 215,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$50,000
			\$0
Total	100%		\$50,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Hydroelectric

Project Number: PLANNED
Project Name: Hydro Equipment and Facility Replacement Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** M. Heape **Board Approval:**

Project Description:

This is a program to replace equipment and facilities used in the hydro system that have failed or reached end of useful life. Funding will be used for hydro facilities rehabilitation, such as building improvements that will extend the life of the asset. In 2024, the Building J and Krakoski building need to be repaired. Improvements to Camp 5 include materials/sand shed, as well as other hydro facility assets.

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 375,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 375,000
Project Balance	\$ -	Additional Funding Required	\$ 375,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design						\$ -
Construction	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 375,000
						\$ -
TOTAL	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 375,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$75,000
Total	100%		\$75,000

Funding Comments:

Project Number: PLANNED
Project Name: Lakes Remote Telemetry Units Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Leanos **Board Approval:**

Project Description:

This project is to replace end of life cycle SCADA Hardware, specifically the Moscad L RTUs and level/flow measurement equipment. Replacement is for monitoring sites at Echo Lake, Aloha Lake, Silver Lake and associated radio communication equipment. This system has served the district well and is no longer supported.

Basis for Priority:

This equipment is at the end of its life cycle and warrants replacement to retain the reliability of the system. Additionally, new replacement parts are not available due to obsolescence. This system cannot be supported on a modern computer.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 325,000
Cash flow through end of year:		Total Project Estimate:	\$ 325,000
Project Balance	\$ -	Additional Funding Required	\$ 325,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 50,000					\$ 50,000
Construction		\$ 200,000				\$ 200,000
Capitalized Labor		\$ 75,000				\$ 75,000
						\$ -
TOTAL	\$ 50,000	\$ 275,000	\$ -	\$ -	\$ -	\$ 325,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$50,000
			\$0
			\$0
Total	100%		\$50,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Hydroelectric

Project Number: PLANNED
Project Name: Hydro Powerhouse Equipment and Facility Replacement Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Leanos **Board Approval:**

Project Description:

This is a program to replace equipment used in the powerhouse that have failed or reached end of useful life. Funding will be used for powerhouse equipment rehabilitation, such as replacing the relay protection systems (Beckwith), rebuilding cooling pumps, replacing/rebuilding HPS systems, instrumentation, trip sensor and other aged out and critical components.

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 375,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 375,000
Project Balance	\$ -	Additional Funding Required	\$ 375,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design						\$ -
Construction	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 375,000
						\$ -
TOTAL	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 375,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$75,000
Total	100%		\$75,000

Funding Comments:

Project Number: STUDY 26
Project Name: Powerhouse Turbine Runner Upgrade
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Kessler **Board Approval:**

Project Description:

The Unit 1 and Unit 2 Pelton turbine runners (impulse turbines or water wheels) were installed in 1958 with a life expectancy of 30 - 40 years depending on operating and water conditions. It requires approximately 18 months to procure a new turbine runner if one were to fail. A spare turbine runner can be used for either of the two turbine-generator units as the units are identical. The estimated revenue loss of waiting for a new runner to be manufactured is \$3 million based on loss of availability of one 10 MW unit for 18 months. The existing turbine runners are constructed of carbon steel and are not as resilient to wear and cracking as modern runners constructed of stainless steel. The District expended approximately \$150,000 in welding and restoration of the two turbine runners in 2016. The primary risk of continuing to extend the service life of the aging turbine runners is that they can incur a sudden failure from stresses induced by previous weld repairs, and associated with the accumulation of start-ups and shutdowns of the turbine-generator units. While staff carefully inspects and monitors the condition of the runners for early warning signs, and makes repairs to areas subject to cracking and wear, the risk of sudden failure increases with time. In 2023, the District contracted for a detailed inspection of the turbines with results supporting the need for replacement. The 2024 costs are to explore options for replacing the turbine runner with a modern design which will also consider improvements in efficiency (to produce more power per unit of water over a greater span of its operating range). The 2024 work will also address upgrades to the needle/servo assembly where two previous failures have occurred and to the unit alignment where differences in hydraulic and magnetic center are causing excessive wear to the bearings.

Basis for Priority:

Both generating units have turbine runners that have operated significantly past their predicted service life, and are subject to failure. The revenue loss in waiting for a new runner to be manufactured is approximately \$3 million. Staff believes it is prudent to study options for replacing both runners together in consideration of: 1) Lost revenue associated with a risk of failure that increases over time; 2) Manufacturing cost savings of two runners together; and 3) Potential reliability/efficiency improvements. Preliminary indication from turbine suppliers is that efficiency improvements of new runners could yield additional annual generation revenue on the order of \$100,000 - \$200,000/year. This estimate would be updated with higher confidence when the District seeks proposals.

Project Financial Summary:

Funded to Date:	\$ 50,000	Expenditures through end of year:	\$ 36,499
Spent to Date:	\$ 34,999	2024 - 2028 Planned Expenditures:	\$ 100,000
Cash flow through end of year:	\$ 1,500	Total Project Estimate:	\$ 136,499
Project Balance	\$ 13,501	Additional Funding Required	\$ 86,499

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Study/Planning	\$ 50,000	\$ 50,000				\$ 100,000
Design						\$ -
Construction						\$ -
						\$ -
TOTAL	\$ 50,000	\$ 50,000	\$ -	\$ -	\$ -	\$ 100,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$36,499
			\$0
			\$0
Total	100%		\$36,499

Funding Comments:

Project Number: PLANNED
Project Name: Spill 3 Crib Wall Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** TBD **Board Approval:**

Project Description:

This section of canal has Spillway No. 3 and is located on the south side of the American River above the USFS 30-Mile Tract subdivision. Spillway No. 3 is no longer used due to the presence of erosive soils in the spillway channel. The spillway structure and canal bench at this location is supported by an earth fill bench and degraded timber crib wall, which was identified for replacement during a recent comprehensive inspection of all flumes and spillways in the Project 184 conveyance between Kyburz and Forebay Reservoir. In 2018 District staff placed temporary measures to buttress the canal to hold in place until design and construction can be completed. Priority for this project was developed with the Canal and Flume Assessment studies. Construction costs are not known. Cost will be developed as design progresses.

Basis for Priority:

The canal has temporary measures in place to keep the integrity in place. Failures that would result in significant impacts to environmentally sensitive areas. Additionally, one third of the District's water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 325,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 325,000
Project Balance	\$ -	Additional Funding Required	\$ 325,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning/Env			\$ 25,000			\$ 25,000
Design			\$ 100,000	\$ 200,000		\$ 300,000
Construction						\$ -
						\$ -
TOTAL	\$ -	\$ -	\$ 125,000	\$ 200,000	\$ -	\$ 325,000

Funding Sources	Percentage	2024	Amount
Water FCCs	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: STUDY
Project Name: 2024 Canal Assessment
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

This project will evaluate the Project 184 canal and provide a condition assessment report. This report will be used to categorize the canal system for future CIP projects. Canal assessments are planned to occur every 5 years to give an overall condition of the system and to prioritize projects.

Basis for Priority:

The canal system was last assessed in 2018. Additionally, one third of the District's water supply would be out of service for an extended period in the event of a canal breach resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 50,000
Cash flow through end of year:		Total Project Estimate:	\$ 50,000
Project Balance	\$ -	Additional Funding Required	\$ 50,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 50,000					\$ 50,000
Environmental						\$ -
Construction						\$ -
						\$ -
TOTAL	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ 50,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$50,000
			\$0
			\$0
Total	100%		\$50,000

Funding Comments:

Project Number: STUDY
Project Name: 2025 Canal Release Points Assessment
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

This project will evaluate the Project 184 canal release points and provide a condition assessment report. This report will be used to categorize the release points system for future CIP projects. Canal release point assessments are planned to occur every 5 years to give an overall condition of the system, track changes, and to prioritize projects.

Basis for Priority:

The canal release points were evaluated in 2021. It takes 14 hours for water to travel from the American River Diversion to Forebay Reservoir, making spillway releases at intervals along the canal a critical component of the Project 184 operations. Evaluating the release points for erosion and overall condition is required by Condition No. 41 of our FERC license.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 80,000
Cash flow through end of year:		Total Project Estimate:	\$ 80,000
Project Balance	\$ -	Additional Funding Required	\$ 80,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design		\$ 80,000				\$ 80,000
Environmental						\$ -
Construction						\$ -
						\$ -
TOTAL	\$ -	\$ 80,000	\$ -	\$ -	\$ -	\$ 80,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: STUDY
Project Name: 2027 Flume Assessment
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

This project will provide structural and geotechnical evaluation on the wooden Flumes and geotechnical evaluation on the concrete flumes. Flume material, year built and length will also be verified and included in the update. This study is set for every five years to evaluate the flumes.

Basis for Priority:

The Project 184 flumes have not been fully evaluated by structural and geotechnical experts since around 2012. Flumes were last inspected in 2022. Additionally, one third of the District's water supply would be out of service for an extended period in the event of a flume failure resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:

Funded to Date:	\$ 50,000	Expenditures through end of year:	\$ 49,069
Spent to Date:	\$ 69	2024 - 2028 Planned Expenditures:	\$ 50,000
Cash flow through end of year:	\$ 49,000	Total Project Estimate:	\$ 99,069
Project Balance	\$ 931	Additional Funding Required	\$ 49,069

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design				\$ 50,000		\$ 50,000
Environmental						\$ -
Construction						\$ -
						\$ -
TOTAL	\$ -	\$ -	\$ -	\$ 50,000	\$ -	\$ 50,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: STUDY
Project Name: 2024 Siphon Assessment
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

Plume Creek and Alder Creek Siphon were last inspected in 2019 and 2018 respectively. Siphon assessments should be completed every five years to determine the condition of the siphon and to note any changes from the last inspection. A list of CIP projects will be developed from the assessment and a report generated. The inspection of the siphons are done with cameras that are mounted on guided remote operated vehicles and done while the siphon is empty.

Basis for Priority:

One third of the District's water supply would be out of service for an extended period in the event of a failure in the siphon resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 60,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 60,000
Project Balance	\$ -	Additional Funding Required	\$ 60,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design	\$ 60,000					\$ 60,000
Environmental						\$ -
Construction						\$ -
						\$ -
TOTAL	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ 60,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$60,000
			\$0
			\$0
Total	100%		\$60,000

Funding Comments:

Project Number: STUDY
Project Name: 2026 Tunnel Assessment
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Carrington **Board Approval:**

Project Description:

This project will evaluate the following tunnels and provide a condition assessment report:

- Mill to Bull Tunnel
- Hazel Creek
- Pacific
- Esmerelda
- El Dorado
- 14 Mile
- Camp Creek

The tunnels were inspected in 2021 as part of the 5 year assessment. This inspection will be done by EID staff only. Tunnel assessments are being scheduled every 5 years.

Basis for Priority:

The Project 184 tunnels should be inspected by competent persons every 5 years to determine what issues are needing to be addressed. Additionally, one third of the District's water supply would be out of service for an extended period in the event of a tunnel collapse resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 50,000
Cash flow through end of year:		Total Project Estimate:	\$ 50,000
Project Balance	\$ -	Additional Funding Required	\$ 50,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design			\$ 50,000			\$ 50,000
Environmental						\$ -
Construction						\$ -
						\$ -
TOTAL	\$ -	\$ -	\$ 50,000	\$ -	\$ -	\$ 50,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
			\$0
Total	100%		\$0

Funding Comments:

Recreation Projects

Project Number: 18023
Project Name: Acorn Day Use Area
Project Category: Reliability & Service Level Improvements
Priority: 3 **PM:** Bertram **Board Approval:**

Project Description:

Funds will be used to design an expansion of Day Use parking capacity near the entrance of Sly Park Recreation Area (SPRA) by creating a new day use parking area that will be known as the Acorn Day Use Area. The area will include the addition of 30 parking stalls, 2 handicap accessible parking stalls, 2 handicap accessible bathroom stalls, a handicap accessible trail to the lake, and scattered picnic tables along the trail. Funds will also be used to hire a consultant to look into the possibility of seeking grant funding to apply towards the development and construction of this project. The District will have a "shovel ready" project which will increase the possibility of seeking grant funding during 2024 to offset the cost of construction in fall of 2025. SPRA has experienced an annual average increase of 8% in the number of day use visitors over the last 5 years, often resulting in the closure of the park on busy summer weekends due to safety concerns and a lack of parking and amenities. Increasing the day use capacity near the entrance of the park will help offset the amount of time the park is closed and allow the capture of some of the lost revenue. The rate of return on this project is estimated to be 15-20 years without grant funding.

Basis for Priority:

Revenue generation and increased customer satisfaction.

Project Financial Summary:			
Funded to Date:	\$ 148,978	Expenditures through end of year:	\$ 109,163
Spent to Date:	\$ 109,163	2024 - 2028 Planned Expenditures:	\$ 25,000
Cash flow through end of year:		Total Project Estimate:	\$ 134,163
Project Balance	\$ 39,815	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Planning	\$ 5,000					\$ 5,000
Design		\$ 20,000				\$ 20,000
TOTAL	\$ 5,000	\$ 20,000	\$ -	\$ -	\$ -	\$ 25,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: Boat Launching Facility Improvements
Project Category: Reliability & Service Level Improvements
Priority: 3 **PM:** Kelsch **Board Approval:**

Project Description:

The two boat launching facilities located within the Sly Park Recreation Area experience heavy use and require repair and improvements. The four-lane boat ramp at the main boat launching facility reduces to one lane when the lake drops below 60% capacity in the summer, restricting access to the lake. This project scope includes widening the and extending the boat ramp at the main boat launching facility. Improvements will also include repair to parking and stalls, replacement of restrooms, and addition fish cleaning stations, solar lighting and bear-resistant garbage enclosures. The district has applied for funding from the California State Parks Division of Boating and Waterways to fund the design of improvements to the two facilities, and will apply for construction funding once design is complete.

Basis for Priority:

Project purpose is to repair and maintain boat launching facilities, increase ADA accessibility and maintain use of boat launching facilities when lake levels are low.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 25,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 25,000
Project Balance	\$ -	Additional Funding Required	\$ 25,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Grant Management	\$ 25,000					\$ 25,000
Design	\$ 300,000					\$ 300,000
Construction						\$ -
DBW Grant	\$ (300,000)					\$ (300,000)
TOTAL	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ 25,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$25,000
			\$0
			\$0
Total	100%		\$25,000

Funding Comments:

Project Number: PLANNED
Project Name: Recreation Facility Replacement Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Bertram **Board Approval:**

Project Description:

This is a program to replace infrastructure at District-owned recreation facilities that have failed or reached end of useful life. Funding will be used for recreation facilities such as road and campground improvements that will extend the life of the asset. Shoreline stabilization projects to protect water quality and existing assets such as road ways, boat ramps, day use areas and campgrounds. Need to make numerous repairs to the roadways within SPRA; all campground access roads need to be replaced and have storm water mitigation features incorporated. Campground spurs require paving or aprons to prevent damage to existing pavement and campsites. Retaining walls at Jenkinson Campground are crumbling and need to be replaced. Within the next five years, the main park roadway and Lakewood Drive will need to be resealed. Access road to Scout Hill youth camp should be chip sealed, at a minimum, to reduce the amount of annual rehabilitation that occurs every spring. Sierra Campground Loop is nearing the end of its useful life and needs to be resurfaced and improved with storm water control devices to reduce sediment laden runoff from entering Jenkinson Lake. Silver Lake West Campground and Sandy Cove Day Use area will need roadways and restrooms replaced due to end of life for those amenities.

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 500,000
Cash flow through end of year:		Total Project Estimate:	\$ 500,000
Project Balance	\$ -	Additional Funding Required	\$ 500,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Jenkinson Campground	\$ 150,000					\$ 150,000
Sierra CG Loop Paving	\$ 25,000	\$ 100,000				\$ 125,000
Hilltop CG Loop Paving			\$ 25,000	\$ 100,000		\$ 125,000
Scout Hill Paving					\$ 100,000	\$ 100,000
TOTAL	\$ 175,000	\$ 100,000	\$ 25,000	\$ 100,000	\$ 100,000	\$ 500,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$175,000
Total	100%		\$175,000

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

Recreation

Project Number: **PLANNED**
 Project Name: **Silver Lake West Campground Improvements**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **3** PM: **Delongchamp** Board Approval:

Project Description:

The 2021 Caldor fire operations along the Highway 88 resulted in damage to the pavement at the District's Silver Lake West Campground. Repaving will be completed in conjunction with other improvements following the construction of the Silver Lake Dam, to minimize mobilization costs to the remote area.

Basis for Priority:

Replacement of necessary damaged or destroyed assets.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 175,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 175,000
Project Balance	\$ -	Additional Funding Required	\$ 175,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Design				\$ 35,000		\$ 35,000
Capitalized Labor					\$ 25,000	\$ 25,000
Construction					\$ 115,000	\$ 115,000
TOTAL	\$ -	\$ -	\$ -	\$ 35,000	\$ 140,000	\$ 175,000

Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number:

PLANNED

Project Name:

Sly Park Recreation Area Facility Improvements

Project Category:

Master Planning

Priority:

3

PM:

Bertram

Board Approval:

Project Description:

The scope of this program will be to analyze and implement park improvements as described in the Sly Park Master Plan. The addition of these new facilities will generate more income, enhance the level of environment protection, improve water quality, provide facilities that enhance the visitor's experience, and increase the level of safety for park visitors and EID employees. These projects would include but would not be limited to;

- 1) Expanding the number of day use facilities, improving and enlarging existing day use facilities and the associated parking areas, and developing new day use facilities on the south side of the lake. This expansion/improvement would help reduce the need to close the park during periods of high use, resulting in increased revenue. These improvements would also reduce camper/day user conflict and provide a way to lessen the impact to the Mormon Immigrant Trail accessed day use areas. Day Use access to SPRA was restricted for one (1) to three (3) hours every Sat & Sun, from 5/27/17-9/3/2017 due to reaching facility capacity thresholds.
- 2) Improved campsite parking spur delineation and campground roadways to reduce soil compaction and improve storm water runoff control and capture to reduce erosion and improve water quality. Currently, many of the day use areas and campgrounds in SPRA have minimal or zero storm water management systems in place. Storm water could be directed and contaminants captured before entering Jenkinson Lake by clearly delineating parking areas and improving roadways with culverts and oil separators. Clearly defined parking areas will also reduce the amount of soil compaction which and lead to increased revegetation throughout SPRA, thus improving water quality.
- 3) Repositioning the Sly Park Recreation Area (SPRA) entrance gatehouse to increase the distance between the gate and CR E-16, thus reducing traffic backups on E-16 and the potential for traffic accidents.

Basis for Priority:

Continued increased risk to the environment and water quality, health and safety risk for SPRA visitors and EID staff, revenue generation and increased customer satisfaction.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 200,000
Cash flow through end of year:		Total Project Estimate:	\$ 200,000
Project Balance	\$ -	Additional Funding Required	\$ 200,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Bumpy Meadows / Waterfall Trailhead Parking and DUA Expansion	\$ 25,000	\$ 125,000				\$ 150,000
Day Use Area Upgrades			\$ 25,000			\$ 25,000
Main DUA Expansion				\$ 25,000		\$ 25,000
TOTAL	\$ 25,000	\$ 125,000	\$ 25,000	\$ 25,000	\$ -	\$ 200,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	100%		\$25,000
Total	100%		\$25,000

Funding Comments:

General District Projects

Project Number: 18044
Project Name: WAN Upgrade
Project Category: Reliability & Service Level Improvements
Priority: 1 **PM:** Stevenson **Board Approval:**

Project Description:

Project implements new network router equipment and establishes new fiber-optic service delivery points to provide needed upgrades to the District's existing Wide Area Network (WAN) infrastructure. The project deploys a next generation solution to meet the District's site to site connectivity requirements, improves service reliability and performance while creating a more scalable and flexible architecture to meet future business needs.

The remaining location to complete for this project scope is Camino Heights in mid 2024.

Basis for Priority:

Major elements of the District's Wide Area Network (WAN) essential to District operations, services, and security, have reached the end of their useful life and require replacement.

Project Financial Summary:

Funded to Date:	\$ 479,697	Expenditures through end of year:	\$ 448,153
Spent to Date:	\$ 448,153	2024 - 2028 Planned Expenditures:	\$ 15,000
Cash flow through end of year:		Total Project Estimate:	\$ 463,153
Project Balance	\$ 31,544	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design						\$ -
Construction	\$ 15,000					\$ 15,000
						\$ -
TOTAL	\$ 15,000	\$ -	\$ -	\$ -	\$ -	\$ 15,000

Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$0
Wastewater Rates	40%		\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

General District

Project Number: 18055
 Project Name: Hansen 7 Software Replacement
 Project Category: Reliability & Service Level Improvements
 Priority: 1 PM: Sundaram Board Approval:

Project Description:

This project replaces the existing Hansen 7 enterprise software application with a modern enterprise solution providing superior features and functionality, including mobile device access and easier integration to other District systems. The project is anticipated to transform and streamline many current business processes and operations that now require time-consuming workarounds developed to overcome limitations in the current software.

Basis for Priority:

The Hansen 7 enterprise software application has reached the end of its useful and can no longer be adapted to meet business needs. The software is used daily by over 150 employees for customer service, utility billing, asset maintenance, and many other purposes.

Project Financial Summary:

Funded to Date:	\$ 11,008,557	Expenditures through end of year:	\$ 8,650,940
Spent to Date:	\$ 8,140,940	2024 - 2028 Planned Expenditures:	\$ 2,374,000
Cash flow through end of year:	\$ 510,000	Total Project Estimate:	\$ 11,024,940
Project Balance	\$ 2,357,617	Additional Funding Required	\$ 16,383

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Consulting Services	\$ 1,800,000	\$ -				\$ 1,800,000
Software & Equipment	\$ 24,000					\$ 24,000
Capitalized Labor	\$ 550,000	\$ -				\$ 550,000
						\$ -
TOTAL	\$ 2,374,000	\$ -	\$ -	\$ -	\$ -	\$ 2,374,000

Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$9,830
Wastewater Rates	40%		\$6,553
Total	100%		\$16,383

Funding Comments:

Project Number: 19027
Project Name: Windows Server 2016 Upgrade
Project Category: Reliability & Service Level Improvements
Priority: 1 **PM:** Stevenson **Board Approval:**

Project Description:

This project replaces about 60 individual Windows 2008 Server applications which have been in service for up to 10 years with the District's current Windows Server solution. Expecting to complete this project by early 2024.

Basis for Priority:

The systems have reached their functional or technical limits and can no longer be adapted to meet essential needs, including regulatory, operational, technology, or security requirements. Continued use of obsolete or failing IT infrastructure causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse.

Project Financial Summary:

Funded to Date:	\$ 180,000	Expenditures through end of year:	\$ 132,565
Spent to Date:	\$ 112,565	2024 - 2028 Planned Expenditures:	\$ 35,000
Cash flow through end of year:	\$ 20,000	Total Project Estimate:	\$ 167,565
Project Balance	\$ 47,435	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design						\$ -
Construction	\$ 35,000					\$ 35,000
						\$ -
TOTAL	\$ 35,000	\$ -	\$ -	\$ -	\$ -	\$ 35,000

Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$0
Wastewater Rates	40%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: 19028
Project Name: Datacenter SCADA Segmentation
Project Category: Reliability & Service Level Improvements
Priority: 1 **PM:** Proctor **Board Approval:**

Project Description:

The project replaces end-of-life network equipment and makes improvements to the secure gateway into the Supervisory and Data Acquisition (SCADA) network. The SCADA network provides mission critical industrial process control of automated treatment and operations functions. The solution implements segmentation and controls between the District's business and SCADA networks that is designed to meet current security best practices while also improving performance and reliability.

Basis for Priority:

Equipment that comprises significant portions of the secure SCADA network gateway has reached the end of its useful life and requires replacement. If the aging equipment or operating system software was to fail or become unavailable for any reason, the best case scenario is a minor financial impact due to a loss of productivity. However, the potential for significant disruption, or worse, is very real.

Project Financial Summary:			
Funded to Date:	\$ 324,569	Expenditures through end of year:	\$ 268,794
Spent to Date:	\$ 248,794	2024 - 2028 Planned Expenditures:	\$ 33,000
Cash flow through end of year:	\$ 20,000	Total Project Estimate:	\$ 301,794
Project Balance	\$ 55,775	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design						\$ -
Construction	\$ 33,000					\$ 33,000
						\$ -
TOTAL	\$ 33,000	\$ -	\$ -	\$ -	\$ -	\$ 33,000

Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$0
Wastewater Rates	40%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: 22021
Project Name: Camino Heights SCADA Upgrade
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Proctor **Board Approval:**

Project Description:

This project aims to replace existing the existing rack mounted servers at the SCADA site with a full hardware upgrade to match other SCADA sites. This will include 3 servers, VMware Licensing, 1 storage array, 2 switches, 2 firewalls and 1 stand-alone server rack with climate control.

Basis for Priority:

The current support for the Dell servers expired in July 2021 and is currently under support with Service Express. This site only has two servers and is currently monitored by Deer Creek Waste Water. The goal is to upgrade this site to be the same as the other 10 remote SCADA sites.

Project Financial Summary:

Funded to Date:	\$ 40,000	Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 100,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 100,000
Project Balance	\$ 40,000	Additional Funding Required	\$ 60,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design						\$ -
Construction	\$ 100,000					\$ 100,000
						\$ -
TOTAL	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ 100,000

Funding Sources	Percentage	2024	Amount
Wastewater Rates	100%		\$60,000
			\$0
			\$0
Total	100%		\$60,000

Funding Comments: Original funding (\$40k) was for design. Estimating the total cost of the project will be \$140,000. Need \$100,000 in additional funding.

Project Number: 22022
Project Name: Network Perimeter Security Upgrades
Project Category: Reliability & Service Level Improvements
Priority: 3 **PM:** Stevenson **Board Approval:**

Project Description:

IT staff have identified needed upgrades to the District’s existing firewalls, two factor authentication and cellular modems infrastructure. The focus of this project is to design and deploy a next generation solution to meet the District’s cyber security and backup data paths for site-to-site connectivity requirements. With an emphasis on incorporating a solution that reduces cost, speeds deployment, integrates security and creates a more agile architecture to support today’s and future business needs.

Basis for Priority:

Major elements of the District’s Network Perimeter essential to District operations, services, and security, have reached the end of their useful life and require replacement.

Project Financial Summary:			
Funded to Date:	\$ 264,630	Expenditures through end of year:	\$ 231,258
Spent to Date:	\$ 161,258	2024 - 2028 Planned Expenditures:	\$ 32,000
Cash flow through end of year:	\$ 70,000	Total Project Estimate:	\$ 263,258
Project Balance	\$ 33,372	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design						\$ -
Construction			\$ 32,000			\$ 32,000
						\$ -
TOTAL	\$ -	\$ -	\$ 32,000	\$ -	\$ -	\$ 32,000

Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$0
Wastewater Rates	40%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: 22044
Project Name: Remote Site Wireless Deployment
Project Category:

Priority: 2 **PM:** Stevenson **Board Approval:**

Project Description:

The "IT Network Infrastructure Replacement" is an ongoing project that maintains the reliability and performance of the District's networks, data processing, storage and network security systems required to conduct daily District business by implementing new technologies, replacing end-of-life or over-utilized equipment and systems.

IT staff have identified a need to deploy wireless to the District's remote sites to support the increasing number of wireless devices utilized by District staff. The focus of this project is to design and deploy a next generation wireless solution with an emphasis on incorporating a solution that reduces cost, speeds deployment, integrates security and creates a more agile architecture to support today's and future business needs.

The funding for this project is contained in the "IT Network Infrastructure Replacement" CIP that is included in the currently adopted 2022-26 Capital Improvement Plan.

Basis for Priority:

Project Financial Summary:

Funded to Date:	\$ 68,000	Expenditures through end of year:	\$ 45,099
Spent to Date:	\$ 45,099	2024 - 2028 Planned Expenditures:	\$ 22,901
Cash flow through end of year:		Total Project Estimate:	\$ 68,000
Project Balance	\$ 22,901	Additional Funding Required	\$ 0

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design						\$ -
Construction	\$ 22,901					\$ 22,901
						\$ -
TOTAL	\$ 22,901	\$ -	\$ -	\$ -	\$ -	\$ 22,901

Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$0
Wastewater Rates	40%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: PLANNED
Project Name: Arc Flash Risk Assessment Program
Project Category: Regulatory Requirements
Priority: 1 **PM:** Leanos **Board Approval:**

Project Description:

This program is intended to comply with regulatory requirements imposed by OSHA in regards to electrical safety of qualified workers. Majority of the electrical equipment in the District is no longer in compliance with the current regulatory requirements and National Fire Protection Association code (NFPA 70E 2021 Standard for Electrical Safety in the Workplace). In order for District to comply and avoid potential fines, Arc Flash Risk Assessment needs to be performed for each District facility that contains electrical hazards. Due to large amount of facilities and electrical equipment, this compliance requirement cannot be completed in a single year and must be separated into manageable portions. This program will assure District stays in compliance.

Basis for Priority:

Maintain electrical safety regulatory requirements of OSHA and NFPA70E. Determine replacement and improvement strategy to support regulatory compliance, improve service reliability and safety. This study will protect and preserve the health and safety of employees and the public.

Project Financial Summary:

Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:		2024 - 2028 Planned Expenditures:	\$ 89,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 89,000
Project Balance	\$ -	Additional Funding Required	\$ 89,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Professional Services	\$ 30,000	\$ -	\$ -	\$ -	\$ 35,000	\$ 65,000
Capitalized Labor	\$ 12,000	\$ -	\$ -	\$ -	\$ 12,000	\$ 24,000
						\$ -
						\$ -
TOTAL	\$ 42,000	\$ -	\$ -	\$ -	\$ 47,000	\$ 89,000

Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$25,200
Wastewater Rates	40%		\$16,800
Total	100%		\$42,000

Funding Comments:

Project Number: PLANNED
Project Name: Headquarter Facility Improvements
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Royal **Board Approval:**

Project Description:

The following building upgrade projects are planned for 2024 - 2028

2024: Convert remaining indoor lighting to LED, upgrade fire alarm system pannel to new upgraded pannel. install security gates behind HQ building, access walkway.

2025: Walkway accessibility from upper yard to H/Q building improvement. Backup power supply for upper fleet yard to support fleet operations and warehouse operations using old existing generator from HQ.

2026: Covered parking improvement for upper parking lot. Parking and road improvement for construction and fleet yard. 2027: none

2028: none

Roof repair project No.23027 = \$322,641.00 funded for 2023 cip project start date is September 25 2023 finish date is oct 15,2023
 HVAC control project No. 23030 = \$131,372.00 funded for the 2023 start project in november 2023.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 200,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 200,000
Project Balance	\$ -	Additional Funding Required	\$ 200,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design						\$ -
Construction	\$ 200,000			\$ -	\$ -	\$ 200,000
TOTAL	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ 200,000

Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$120,000
Wastewater Rates	40%		\$80,000
Total	100%		\$200,000

Funding Comments:

Project Number: PLANNED
Project Name: IT Business Systems Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Sundaram **Board Approval:**

Project Description:

Ongoing program to ensure the reliability, security, and performance of technologies and software used by staff daily to perform business processes in support of District operations. Technologies are typically a mix of cloud-based services and on-premise equipment or database software, and include:

- Administration Technologies: document management, accounting, purchasing, contracting, or support desk systems
- Engineering Technologies: asset management, drafting, modeling, analyzing, or construction management systems
- Operations Technologies: work management, specialty inspections, energy management, or laboratory information management systems

Business system technologies evolve steadily and manufacturers will typically cease new feature development 3 to 5 years after the product was initially released and usually end all support and security fixes when the product reaches about 5 to 10 years of age. The program tracks technologies in use at the District and provides modern, efficient, flexible, scalable, and secure replacement solutions before current equipment, systems, or services lose manufacturer support and/or fail with potentially catastrophic results.

Anticipated initiatives include:

- 2023 - Upgrade to next generation modeling software, develop contract management and IT change management solutions in ITSM software.
- 2024 - Develop plant operator rounds solution in LIMS software.
- 2025 - Upgrade to next generation GIS software.

Basis for Priority:

Continued use of obsolete or failing technology causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse. Business system technologies typically have Internet access which exposes them regularly to a multitude of advanced persistent cyber threats. While access to the Internet can provide tremendous benefit, outdated or unpatched systems or software can become compromised in a matter of minutes.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 455,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 455,000
Project Balance	\$ -	Additional Funding Required	\$ 455,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Admin & Finance Technology	\$ 50,000	\$ 25,000	\$ 250,000			\$ 325,000
Operations Technology		\$ 30,000				\$ 30,000
Engineering Technology	\$ 25,000		\$ 25,000	\$ 50,000		\$ 100,000
TOTAL	\$ 75,000	\$ 55,000	\$ 275,000	\$ 50,000	\$ -	\$ 455,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$45,000
Wastewater Rates	40%		\$30,000
Total	100%		\$75,000

Funding Comments:

Project Number: **PLANNED**
Project Name: **IT Communication Systems Replacement**
Project Category: **Reliability & Service Level Improvements**
Priority: **2** **PM:** **Stevenson** **Board Approval:**

Project Description:

Ongoing program to ensure the reliability, security, and performance of technologies and software used by staff daily to communicate, collaborate, and coordinate with other staff, customers, vendors, regulators, and others in support of District operations. Technologies are typically a mix of cloud-based services and on-premise equipment, and include:

- Voice & Video Calling: telephones, voice or video gateway equipment, call processing or routing software
- Meeting Technology: audio-visual equipment and software to conduct and manage physical or virtual meetings
- Email & Messaging: software applications to compose, manage, search and securely send or receive message and file transmissions
- Sharing & Collaboration: software platforms for individuals, teams or groups to create and publish content to an intranet or the Internet

Communications and collaboration technologies evolve steadily and manufacturers will typically cease new feature development 3 to 5 years after the product was initially released and usually end all support and security fixes when the product reaches about 5 to 10 years of age. The program tracks technologies in use at the District and provides modern, efficient, flexible, scalable, and secure replacement solutions before current equipment, systems, or services lose manufacturer support and/or fail with potentially catastrophic results.

Basis for Priority:

Continued use of obsolete or failing technology causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse. Communications and collaboration technologies typically have Internet access which exposes them regularly to a multitude of advanced persistent cyber threats. While access to the Internet can provide tremendous benefit, outdated or unpatched systems or software can become compromised in a matter of minutes.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 525,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 525,000
Project Balance	\$ -	Additional Funding Required	\$ 525,000

Description of Work	Estimated Annual Expenditures					
	2024	2025	2026	2027	2028	Total
Voice & Video Calling Upgrades	\$ 75,000	\$ 50,000			\$ 100,000	\$ 225,000
Meeting Technology Upgrades	\$ 25,000		\$ 50,000	\$ 100,000		\$ 175,000
Cloud Email & Intranet Upgrades		\$ 125,000				\$ 125,000
TOTAL	\$ 100,000	\$ 175,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 525,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$60,000
Wastewater Rates	40%		\$40,000
Total	100%		\$100,000

Funding Comments:

Project Number: PLANNED
Project Name: IT End-User Technology Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Stevenson **Board Approval:**

Project Description:

Ongoing program to ensure the reliability, security, and performance of workstations, productivity software and related technology used by staff daily to operate the District. End-user technologies include:

- Virtual Machines (VMs): cloud-based workstations served by Virtual Desktop Infrastructure (VDI), client terminals and imaging software
- Personal Computers (PCs): traditional physical desktop and laptop computers, operating software, and computer management software
- Personal Productivity Software Suites: common software applications to create, view, edit and manage files or documents
- Endpoint Security Software: software designed to secure workstations from a variety of cyber threats

End-user technologies evolve quickly and manufacturers will typically cease product support and security fixes when the product is beyond five years of age. The program tracks technologies in use at the District and provides modern, efficient, flexible, scalable, and secure replacement solutions before current equipment, systems, or services lose manufacturer support and/or fail with potentially catastrophic results.

Planned initiatives include:

- 2023-24: Windows 10 replacement on all physical PCs and VMs
- 2024: Virtual desktop infrastructure and VM image replacement
- 2024-25: Replace end-of-life VM terminals and physical PCs unable to support Win 10 replacement

Basis for Priority:

Continued use of obsolete or failing technology causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse. Personal productivity technologies typically have Internet access which exposes them regularly to a multitude of advanced persistent cyber threats. While access to the Internet can provide tremendous benefit, outdated or unpatched personal computer systems or software can become compromised in a matter of minutes.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 675,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 675,000
Project Balance	\$ -	Additional Funding Required	\$ 675,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
VM Upgrades	\$ 100,000	\$ 100,000				\$ 200,000
PC Upgrades	\$ 50,000	\$ 125,000		\$ 100,000		\$ 275,000
Personal Productivity & Security Software Upgrades		\$ 100,000	\$ 100,000			\$ 200,000
TOTAL	\$ 150,000	\$ 325,000	\$ 100,000	\$ 100,000	\$ -	\$ 675,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$90,000
Wastewater Rates	40%		\$60,000
Total	100%		\$150,000

Funding Comments:

Project Number: PLANNED
Project Name: IT Network Infrastructure Replacement
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Stevenson **Board Approval:**

Project Description:

Ongoing program to ensure the reliability, security, and performance of mission critical networking and data processing technologies include:
 - Local & Wide Area Networks (LANs/WANs): network equipment providing connectivity to facilities, servers, workstations, and other services
 - Data Processing & Storage: cloud or on premise platforms providing shared computing, data storage and backup
 - Access & Identity Management: enterprise software to manage, monitor and control access to computers, software, data, and services
 - Network Security Systems: equipment and software designed to monitor, detect, and respond to a variety of cyber threats

Network infrastructure technologies evolve steadily and manufacturers will typically cease new feature development 3 to 5 years after the product was initially released and usually end all support and security fixes when the product reaches about 5 to 10 years of age. The program tracks technologies in use at the District and provides modern, efficient, flexible, scalable, and secure replacement solutions before current equipment, systems, or services lose manufacturer support and/or fail with potentially catastrophic results.

Basis for Priority:

Continued use of obsolete or failing technology causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse. Network infrastructure technologies typically have Internet access which exposes them regularly to a multitude of advanced persistent cyber threats. While access to the Internet can provide tremendous benefit, outdated or unpatched computer systems or software can become compromised in a matter of minutes.

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 987,500
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 987,500
Project Balance	\$ -	Additional Funding Required	\$ 987,500

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Network Upgrades	\$ 150,000	\$ 100,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 400,000
Server, Data Processing & Storage Upgrades	\$ 200,000	\$ 87,500		\$ 50,000		\$ 337,500
Identity, Access & Security Upgrades	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 250,000
TOTAL	\$ 400,000	\$ 237,500	\$ 100,000	\$ 150,000	\$ 100,000	\$ 987,500

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$240,000
Wastewater Rates	40%		\$160,000
Total	100%		\$400,000

Funding Comments:

Project Number: Planned
Project Name: New Security Systems
Project Category: Regulatory Requirements
Priority: 1 **PM:** Newsom **Board Approval:**

Project Description:

There are six treated water facilities that need a security system. In addition, all 20 current District security systems need a new security system. Currently, about 30% of sensors that are used for alarms are not working. Operations management reports that personnel are being called out after-hours and that supervisors are receiving a lot of false alarms. The District's alarm and access control systems need to be replaced right now. This process is expected to take two years. After each site is converted, a new monitoring company will be used. Six new security systems will be installed between 2026 and 2030, as well as additional cameras and the replacement of existing ones, to conform with industry standards or the recommendations of the RFI security assessment. The new cameras will have better analytics to reduce false alarms, and supervisors will have the ability to review footage quickly on their mobile devices if needed. Materials, labor costs, license fees, and monitoring are all included in the price of this project.

Basis for Priority:

Meet the requirements of the Safe Drinking Water Act and America's Water Infrastructure Act through compliance with the District Drinking Water Risk Assessment, FERC Security Assessment, Department of Homeland Security, Federal Emergency Management Agency, California Government Code requirements for routine video storage, and the Department of Energy requirements for Emergency Action Plans and Critical Infrastructure security

Project Financial Summary:

Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 2,171,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 2,171,000
Project Balance	\$ -	Additional Funding Required	\$ 2,171,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design						\$ -
Construction	\$ 500,000	\$ 515,000	\$ 371,000	\$ 385,000	\$ 400,000	\$ 2,171,000
						\$ -
TOTAL	\$ 500,000	\$ 515,000	\$ 371,000	\$ 385,000	\$ 400,000	\$ 2,171,000

Funding Sources	Percentage	2024	Amount
Water Rates	70%		\$350,000
Wastewater Rates	30%		\$150,000
			\$0
Total	100%		\$500,000

Following a review of the RFI security evaluation, several of the components of the District's current security systems have either reached end of life or are no longer functional. The District has attempted to replace components that have broken here and there, but the security systems continue to malfunction. The District spends around \$25,000 per year on a maintenance contract with a security firm to replace broken equipment as needed. After the alarm systems have been changed, that contract will no longer be required. Furthermore, no contractor in the Sacramento area currently understands how to work on our current access control system Entre. In the last 5-10 years, security technology has advanced dramatically. For similar reasons, both South Tahoe PUD and El Dorado County recently installed new security systems.

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

General District

Project Number: **PLANNED**
 Project Name: **SCADA Master Plan Implementation**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **3** PM: **Leanos** Board Approval:

Project Description:

This CIP outlines improvements and sustainability plan as recommended by our hired consultant. Please refer to the SCADA Master Plan.

Basis for Priority:

Meet the requirements of the Department of Homeland Security to maintain Critical Infrastructure security and software up to date and supported.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 375,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 375,000
Project Balance	\$ -	Additional Funding Required	\$ 375,000

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
EDHWW SCADA upgrade		\$ 200,000				\$ 200,000
Camp 5 SCADA upgrade			\$ 100,000			\$ 100,000
SCADA Enterprise System Upgrade				\$ 75,000		\$ 75,000
TOTAL	\$ -	\$ 200,000	\$ 100,000	\$ 75,000	\$ -	\$ 375,000

Estimated Funding	Percentage	2024	Amount
Water Rates	60%		\$0
Wastewater Rates	40%		\$0
			\$0
Total	100%		\$0

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN Program:

General District

Project Number: PLANNED
Project Name: Security Equipment Reliability Program
Project Category: Regulatory Requirements

Priority: 2 **PM:** Newsom **Board Approval:** 11/14/22

Project Description:

Integrated security systems have been protecting District critical infrastructure and key resources since 2006, providing alarm verification through real-time CCTV system viewing of alarm events. As technology evolves and our systems reach end of life cycle we acquire the most effective solutions in hardware and software to maintain integrated security systems that provide timely detection and law enforcement response elements to mitigate theft, vandalism, trespassing, other malevolent incidents impacting critical infrastructure. The integrated system also provides an important emergency response capability required for compliance with the District Drinking Water Risk Assessment, FERC Security Assessment, Emergency Operations and Department Emergency Actions Plans as required by the Federal Safe Drinking Water Act, Title IV - Drinking Water Security and Safety, and America's Water Infrastructure Act of 2018.

Basis for Priority:

Meet the requirements of the Safe Drinking Water Act and America's Water Infrastructure Act through compliance with the District Drinking Water Risk Assessment, FERC Security Assessment, Department of Homeland Security, Federal Emergency Management Agency, and the Department of Energy requirements for Emergency Action Plans and Critical Infrastructure security.

Project Financial Summary:			
Funded to Date:	\$ 680,000	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ 210,000
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ 280,000
Project Balance	\$ 680,000	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Consulting Services	\$ 10,000					\$ 10,000
Replacement	\$ 100,000	\$ 100,000				\$ 200,000
						\$ -
TOTAL	\$ 110,000	\$ 100,000	\$ -	\$ -		\$ 210,000

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$0
Wastewater Rates	40%		\$0
			\$0
Total	100%		\$0

Funding Comments:

Project Number: Planned
Project Name: Vehicle Replacement Program
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Royal **Board Approval:**

Project Description:

The following vehicle replacements are planned for 2024 - 2028.

2024: (3) 1/2 ton pickups, (1) compact 4x4 pickup truck, (10) 1 ton utility truck 4x4, (3) 1 ton 4x4 pickup truck, (1) 1-1/2 ton utility 4x4 truck with crane, (1) 1-1/2 ton cab and chassis 4x4 truck (2) 1 1/2 ton mechanic service truck, (4) 1 1/2 ton crew cab utility 4x4 crew truck with power unit (1) 52,000lb septic pumper truck, (1) 4 thousand gallon water truck. **Note:** (6) dump trucks and (1) 4 thousand gallon water truck were ordered in 2022 but will not show up until 2024.

2025: (5) 1/2 ton pickups, (4) suv's, (1) 3/4 ton pickup 4x4, (1) 21-24 ft patrol boat, (2) 410 backhoe, (1) fx40 vacuum excavation trailer.

2026: (11) 1/2 ton pickup's, (1) 4 door sedan's, (3) suv's, (1) 3/4 ton utility 4x2 truck, (1) 1 ton 4x4 pickup (1) 1 ton flatbed 4x4 truck's, (1) jeep 4x4, (1) 410 backhoe, (1) truck vactor hydro cleaning 10-12 yard

2027: (3) 1/2 ton pickup's, (1) 1 ton utility 4x2 truck, (1) 1-1/2 ton flatbed dump 4x4, (1) sewer service foam truck, (1) truck dump 10-11 cubic yard with plow (1) 410 backhoe. (1) sewer camera inspection truck

2028: (9) 1/2 ton pickups, (2) compact 4x4 pickup trucks, (2) 1 ton utility truck 4x2. (2) TKT40LP tilt equipment trailers.

Basis for Priority:

Enhances District assets through life-cycle replacement of existing vehicles.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ -
Project Balance	\$ -	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Vehicles/Equipment	\$ 3,050,500	\$ 945,000	\$ 1,000,000	\$ 1,000,000	\$ 500,000	\$ 6,495,500
						\$ -
TOTAL	\$ 3,050,500	\$ 945,000	\$ 1,000,000	\$ 1,000,000	\$ 500,000	\$ 6,495,500

Estimated Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$1,830,300
Wastewater Rates	40%		\$1,220,200
			\$0
Total	100%		\$3,050,500

Funding Comments:

2024

CAPITAL IMPROVEMENT PLAN

Program:

General District

Project Number: **Planned**
 Project Name: **Windows 2012 Upgrade**
 Project Category: **Reliability & Service Level Improvements**
 Priority: **2** PM: **Stevenson** Board Approval:

Project Description:

This project replaces about 60 individual Windows 2012 Server applications which have been in service for up to 10 years with the District's current Windows Server solution.

Basis for Priority:

The systems have reached their functional or technical limits and can no longer be adapted to meet essential needs, including regulatory, operational, technology, or security requirements. Continued use of obsolete or failing IT infrastructure causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse.

Project Financial Summary:			
Funded to Date:	\$ -	Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2024 - 2028 Planned Expenditures:	\$ -
Cash flow through end of year:		Total Project Estimate:	\$ -
Project Balance	\$ -	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2024	2025	2026	2027	2028	
Study/Planning						\$ -
Design		\$ 13,500				\$ 13,500
Implementation			\$ 64,800			\$ 64,800
						\$ -
TOTAL	\$ -	\$ 13,500	\$ 64,800	\$ -	\$ -	\$ 78,300

Funding Sources	Percentage	2024	Amount
Water Rates	60%		\$0
Wastewater Rates	40%		\$0
			\$0
Total	100%		\$0

Funding Comments:

2024 – 2028

CAPITAL IMPROVEMENT PLAN

ADOPTION

El Dorado Irrigation District
October 23, 2023

Previous Board Actions

2

- November 14, 2022 – Board adopted 2023 – 2027 CIP, subject to available funding
- October 10, 2023 – CIP Workshop

Summary of Issue

3

- 5-year Capital Improvement Plan Update
 - ▣ CIP adopted by Board prior to operating budget
- No changes identified since Oct 10 workshop



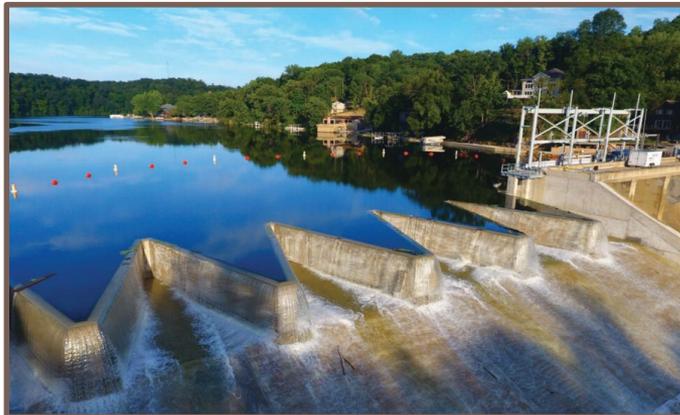
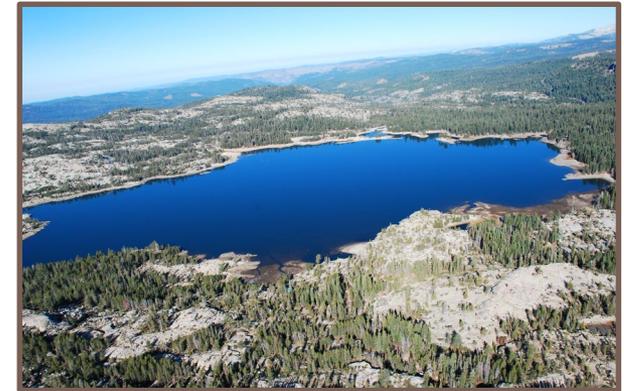
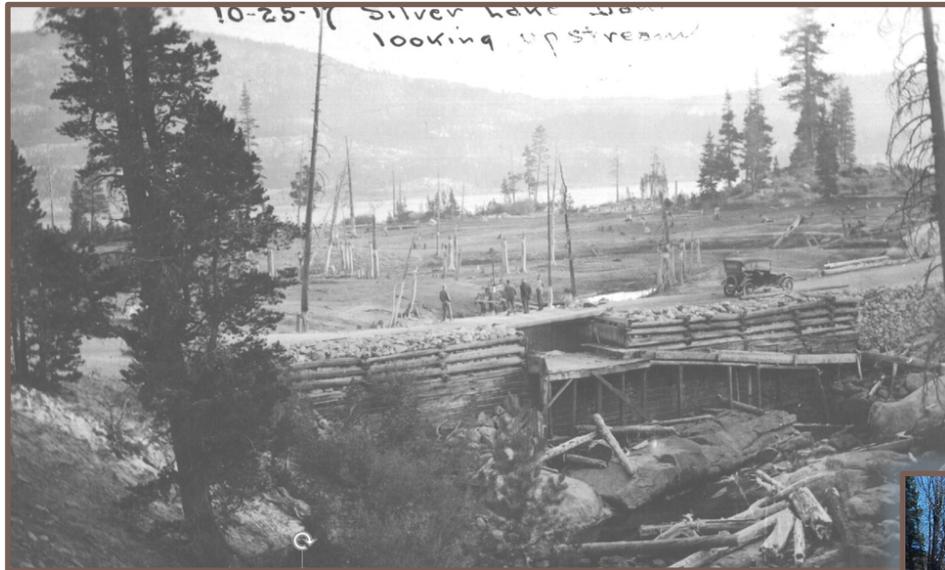
2024-2028 CAPITAL IMPROVEMENT PLAN

October 23, 2023

	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2028 PLANNED	FIVE-YEAR PLAN TOTAL
FERC	\$2,191,195	\$727,671	\$999,191	\$945,682	\$332,292	\$5,196,031
Water	\$26,871,587	\$27,794,723	\$32,166,360	\$49,361,209	\$48,829,612	\$185,023,491
Wastewater	\$11,050,000	\$7,775,000	\$11,500,000	\$6,525,000	\$4,925,000	\$41,775,000
Recycled Water	\$984,084	\$1,563,510	\$1,714,340	\$1,060,140	\$325,000	\$5,647,074
Hydroelectric	\$7,090,000	\$7,055,000	\$4,715,000	\$24,015,000	\$25,140,000	\$68,015,000
Recreation	\$230,000	\$245,000	\$50,000	\$160,000	\$240,000	\$925,000
General District	\$7,207,401	\$2,566,000	\$2,092,800	\$1,860,000	\$1,147,000	\$14,873,201
TOTAL	\$55,624,267	\$47,726,904	\$53,237,691	\$83,927,031	\$80,938,904	\$321,454,797

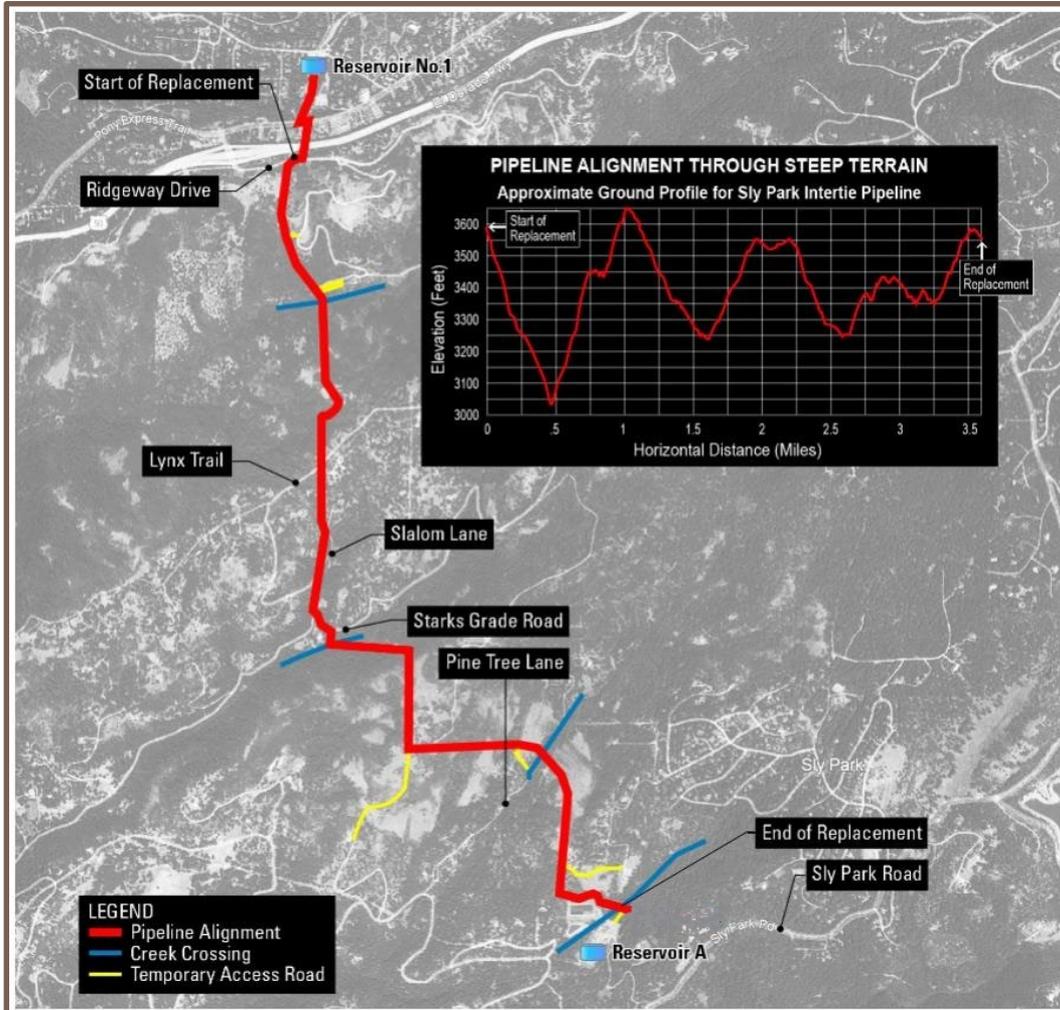
Silver Lake Dam Replacement 2024-2028: \$50M

5



Sly Park Intertie Replacement 2024-2025: \$30M

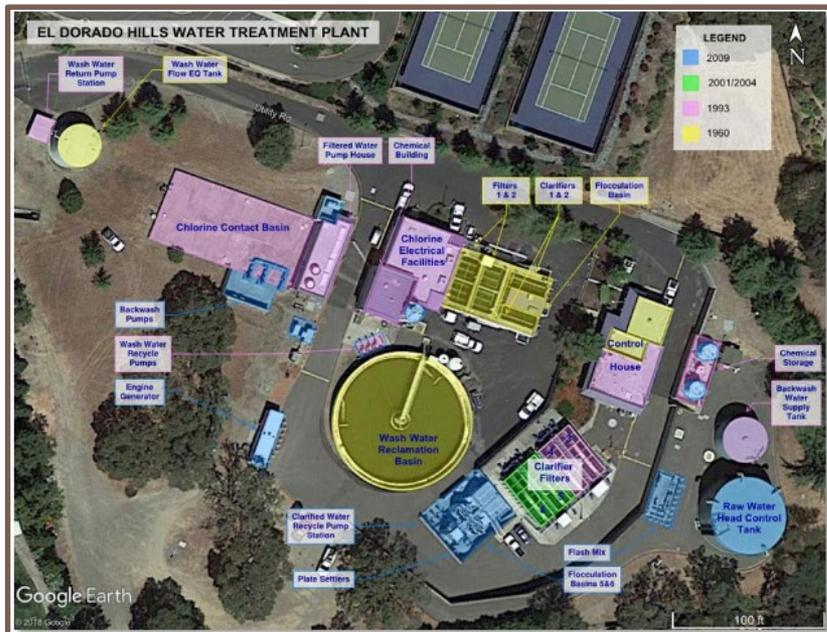
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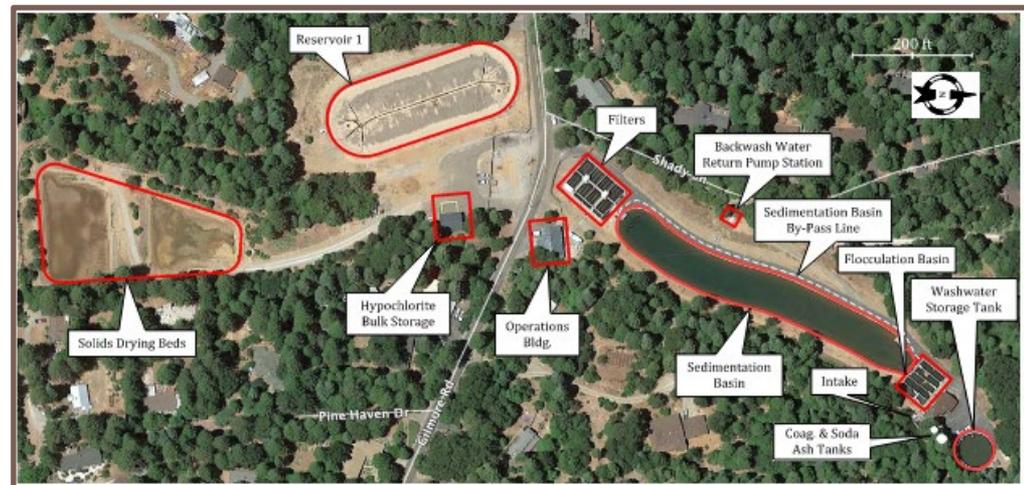
Water Treatment Plant Improvements 2024-2028: \$93M

7

- EDHWTP and Reservoir 1 WTP
- Phased replacement and upgrades



EDHWTP



Reservoir 1 WTP

Water Storage Recoating and Replacement 2024-2028: \$30M



Service Line Replacement 2024-2028: \$15M

9



- Replace >25,000 polyethylene services
- \$3M annually



Waterline Replacement Projects

2024-2028: \$9M

10



- Drop off Road
- \$2-3M annually 2026-2028



Wastewater lift station upgrades

2024-2028: \$9M

11

- Indian Creek lift station
- St. Andrews lift station
- Rancho Ponderosa lift station
- Communication upgrades and other improvements



Wastewater pipeline replacement 2024-2028: \$20M

12

- Mother Lode force main
- Strolling Hills sewer line
- Collection system gravity pipelines
- Ponderosa Heights force main



Flume Replacement Deferrals

13



Flume 48



Flume 45 Section 3

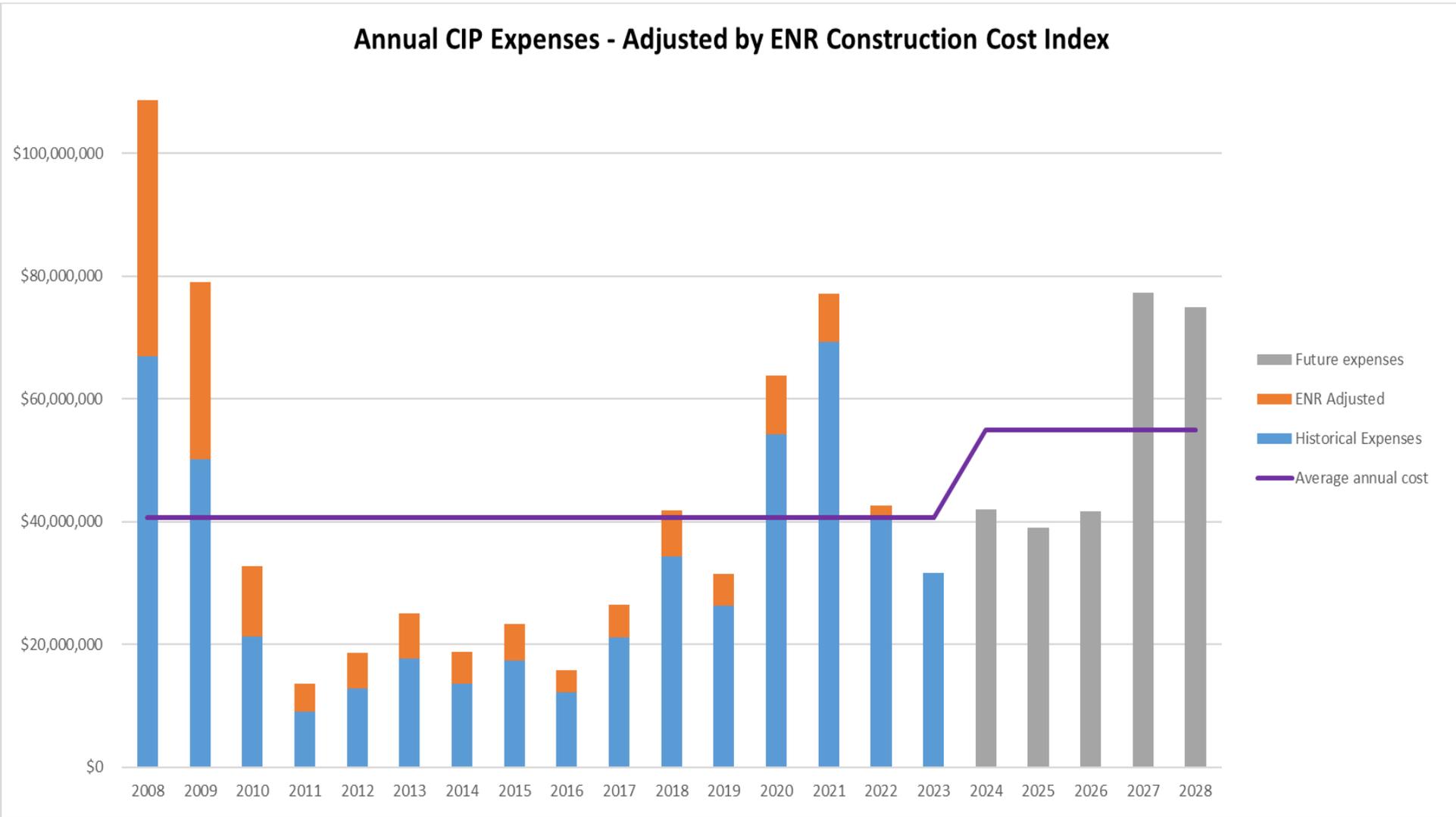


CIP Comparison

(in millions)								
	2022	2023	2024	2025	2026	2027	2028	Totals
2022-2026 CIP	55.5	43.4	46.5	42.5	50.4			238.3
2023-2027 CIP		48.6	53.3	47.4	26.4	32.6		208.3
2024-2028 CIP (Draft)			55.6	47.7	53.2	83.9	80.9	321.4

- Actual expenditures typically 70-90% of planned
- \$275 million over the 5-year period
- Matches Cost of Service Study financial plan

Annual CIP Expenses - Adjusted by ENR Construction Cost Index



Financing the 2024-2028 CIP

16

- \$275M actual expenditures over 5 years
 - ▣ Large projects funded by bond proceeds
 - 2024 and 2027 (\$180M)
 - ▣ Annual revenue for pay-as-you-go projects
 - ▣ Facility Capacity Charge (FCC) revenue/FCC reserves
 - ▣ Grants
 - Pending grant applications – potential \$41M
 - Silver Lake dam, flume replacement, floating cover reservoirs, recreation, fuel reduction

Board Options

17

- Option 1: Adopt the 2024-2028 CIP, subject to available funding
- Option 2: Take other action as directed
- Option 3: Take no action

Recommendation

18

- Option 1

Questions

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider awarding a contract to Big Valley Electric, Inc. in the not-to-exceed amount of \$1,707,500 for construction of the Reservoir A Valve Replacement Project and authorize additional funding of \$94,719 for construction engineering services, \$34,685 for construction management, \$24,960 inspection services, \$26,000 for capitalized labor, and \$192,786 in project contingency for a total funding request of \$2,080,650 for the Reservoir A Filter Valve Replacement Project, Project No. 22038.01.

PREVIOUS BOARD ACTION

November 14, 2022 – Board adopted the 2023–2027 Capital Improvement Plan (CIP), subject to available funding.

April 24, 2023 – Board awarded a contract to KPR Consulting, Inc. in the not-to-exceed amount of \$229,280 for the purchase of filter valves and authorized additional funding in the amount of \$25,000 for capitalized labor for a total funding request of \$254,280 for the Reservoir A Filter Valve Replacement Project, Project No. 22038.01.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 3060 Contracts and Procurement

BP 5010 Water Supply Management

SUMMARY OF ISSUE

The Reservoir A Water Treatment Plant (Res A WTP) filter inlet valves have reached the end of their useful lives, and some failures have been observed. If an inlet valve fails, it is necessary to isolate a cluster of filters to make repairs, removing one-third of the plant capacity from service, well below that required to meet summer demands. Therefore, the valves must be replaced to avoid potential disruptions in water service during high-demand periods.

BACKGROUND/DISCUSSION

The Res A WTP is a direct filtration plant with a capacity of 56 million gallons per day. Water is routed to the plant from Jenkinson Lake, and following treatment, water is distributed throughout the District's service area. Jenkinson Lake is the District's largest water supply, and Res A WTP is the largest treatment plant, delivering approximately two-thirds of the District's water supplies annually. The filter complex includes twelve gravity filters, grouped in three clusters of four filters each, each with its own inlet valve.

Jenkinson Lake was constructed in 1952, and the first components of the water treatment plant were built in 1960. As demand and regulatory requirements increased, gravity filters were added in 1989 (Filters Nos. 1-8) and expanded in 1998 (Filters Nos. 9-12). The filters are configured so that if one filter inlet valve fails, all four filters in that cluster must be taken out of service to repair a single inlet valve. This results in a one-third reduction in plant capacity, well below that required to meet summer demands. In 2022, one of the twelve filter valves failed, temporarily taking four filters out of service. Fortunately, this occurred during a period of lower demand, and staff was able to repair the valve to extend its operation until it could ultimately be replaced. The recently completed Draft WTP Asset Management Plan identifies the valves as critical

infrastructure, categorized as “Very High Risk,” requiring immediate replacement. With Board authorization, the filter valves were purchased in April 2023 under a separate contract to ensure they arrive in time for installation between January 1 and March 31, 2024, prior to seasonal increases in demand. The valves are scheduled for delivery in December 2023.

Construction Contract

The project was originally advertised for bidding in August 2023, but all bids were rejected after the District became aware of an issue in the technical specifications related to contractor licensing requirements. Therefore, the District determined that the technical specifications needed to be revised and re-bid the project. Re-bidding the project added a month to an already tight schedule. Therefore, an optional bid item was added to the bid form to identify the cost of accelerating project completion by one month, putting the project back on the original schedule. The project was re-advertised for bid in September 2023 with the optional bid item. Four general contractors attended the mandatory pre-bid meeting on October 3, 2023, and four bids were received by the District, as summarized in Table 1. More detail is provided in the Summary of Bids (Attachment A).

Table 1 – Bid Summary

Contractor	Total Base Bid	Total Base Bid + Optional Item
Big Valley Electric	\$1,667,500	\$1,707,500
Bayview Engineering and Construction Co., Inc.	\$1,755,339	\$1,755,339
TNT Industrial Contractors, Inc.	\$1,898,612	\$1,932,612
T&S Construction Co., Inc.	\$1,973,000	\$2,048,000

The engineer’s estimate for the project was \$1,700,000. Big Valley Electric is the lowest responsible bidder, with a base bid of \$1,667,500 and a base bid plus the optional item for an accelerated schedule of \$1,707,500. The cost to accelerate the schedule is \$40,000. Staff recommends award of the base bid plus the optional item to Big Valley Electric in the amount of \$1,707,500 to ensure all filters will be back online by the end of March prior to increased demands that typically occur in April.

Environmental Review

The District, acting as the Lead Agency, must comply with California Environmental Quality Act (CEQA) requirements for the Reservoir A Filter Valve Replacement Project. Staff has reviewed the activities associated with implementing the proposed project and determined that the project qualifies for a Class 1 CEQA Categorical Exemption as the repair of an existing publicly owned facility where the project involves no expansion of existing or former use (CEQA Guidelines §15301) and for a Class 2 CEQA Categorical Exemption as replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced (CEQA Guidelines §15302). None of the applicable exceptions to these exemptions, as identified under CCR, Title 14 section 15300.2, apply to this project, including an area of critical concern, cumulative impact, significant effect due to unusual circumstances, scenic highways, hazardous waste sites, and historical resources. If the Board approves the proposed project, staff will file a Notice of Exemption (NOE) from CEQA with the El Dorado County Recorder-Clerk’s office and post the NOE on the District’s website.

FUNDING

Funding for this project was identified in the 2023-2027 CIP with total estimated expenditures of \$1.02 million over the five-year period (Attachment B). The original scope of work and cost estimate in the 2023-2027 CIP were based on a conceptual level of detail. Typical accuracy ranges for conceptual level cost estimates are -20% to -50% on the low side and +30% to +100% on the high side. As the project developed through design, the scope of work expanded to include grating around the inaccessible valves for safety purposes and the addition of wiring and conduit that would allow for more operational flexibility and more complex automation of the valves in the future. These changes also affected project costs. Other factors impacting project cost include limited shutdown periods for critical items, a complex shutdown sequence to keep the plant in service during construction due to being unable to take the entire plant offline to complete the project, and general inflationary pressure on construction labor and materials.

The total additional funding required to complete this project is summarized in Table 2. With other water-funded project deferrals such as Flume 47A replacement, Silver Lake campground water system, and Drop Off Road waterline replacement shifting to 2024, there is adequate funding to accommodate the increased cost of the project over that planned in the CIP. Funding will come from Water FCCs.

Table 2 – Funding Requirements

Construction – Big Valley Electric	\$1,707,500
Construction engineering services	\$94,719
Construction management	\$34,685
Inspection services	\$24,960
Capitalized labor	\$26,000
10% Project Contingency	\$192,786
Total Funding Request	\$2,080,650

Construction is anticipated to begin in November 2023, with valve installation occurring January through March 2024 during the low-demand period.

BOARD OPTIONS

Option 1: Award a contract to Big Valley Electric in the not-to-exceed amount of \$1,707,500 for the construction of the Reservoir A Valve Replacement Project and authorize additional funding of \$94,719 for construction engineering services, \$34,685 for construction management, \$24,960 for inspection services, \$26,000 for capitalized labor, and \$192,786 in project contingency for a total funding request of \$2,080,650 for the Reservoir A Filter Valve Replacement Project, Project No. 22038.01.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

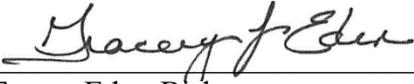
RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: Summary of Bids

Attachment B: CIP summary



Tracey Eden-Bishop
Senior Civil Engineer



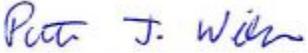
Brian Deason
Environmental Resources Supervisor



Jon Money
Engineering Manager



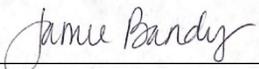
Brian Mueller
Engineering Director



Patrick Wilson
Water Operations Manager



Dan Corcoran
Operations Director

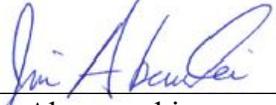


Jamie Bandy
Finance Director



Brian Poulsen
General Counsel

for



Jim Abercrombie
General Manager

Attachment A

EL DORADO IRRIGATION DISTRICT

RESERVOIR A FILTER VALVE REPLACEMENT

PROJECT NO. 22038.01; CONTRACT NO. E23-15

Bid Opening: October 11, 2023 @ 3:01 p.m.

SUMMARY OF BIDS RECEIVED

ITEM NO.	WORK OR MATERIAL	QUANTITY	UNIT	Big Valley Electric Copperopolis, CA Bid env. A received via Fed Ex at 8:40 a.m. 8/11/2023 Bid env. B received via Fed Ex at 8:40 a.m. 8/11/2023 "Footnotes A & B"		Bayview Engineering & Construction Co., Inc. El Dorado Hills, CA Bid env. A received via hand delivery at 10:17 a.m. 10/11/2023 Bid env. B received via hand delivery at 10:17 a.m. 10/11/2023 "Footnote C"		TNT Industrial Contractors, Inc. Sacramento, CA Bid env. A received via hand delivery at 2:53 p.m. 10/11/2023 Bid env. B received via hand delivery at 2:53 p.m. 10/11/2023		T&S Construction Co., Inc. Sacramento, CA Bid env. A received via hand delivery at 2:26 p.m. 10/11/2023 Bid env. B received via hand delivery at 2:26 p.m. 10/11/2023	
				UNIT PRICE (FIGURES)	AMOUNT (FIGURES)	UNIT PRICE (FIGURES)	AMOUNT (FIGURES)	UNIT PRICE (FIGURES)	AMOUNT (FIGURES)	UNIT PRICE (FIGURES)	AMOUNT (FIGURES)
1	Bonds & Insurance	1	LS	30,000.00	\$ 30,000.00	24,145.00	\$ 24,145.00	18,000.00	\$ 18,000.00	25,000.00	\$ 25,000.00
2	Safety Plan and Programs	1	LS	20,000.00	20,000.00	9,870.00	9,870.00	2,600.00	2,600.00	6,000.00	6,000.00
3	Mobilization/Demobilization	1	LS	82,500.00	82,500.00	44,781.00	44,781.00	15,000.00	15,000.00	90,000.00	90,000.00
4	Demolish 8-Inch Air Header Piping	1	LS	5,000.00	5,000.00	18,473.00	18,473.00	1,800.00	1,800.00	15,000.00	15,000.00
5	Furnish and Install 8-Inch FEL&C Sch 20 Air Header Piping	1	LS	10,000.00	10,000.00	44,232.00	44,232.00	10,500.00	10,500.00	30,000.00	30,000.00
6	Relocate 8-Inch Air Valve and Valve Actuator	12	EA	5,000.00	60,000.00	1,050.00	12,600.00	2,825.00	33,900.00	1,500.00	18,000.00
7	Demolish 8-Inch Air Piping	1	LS	5,000.00	5,000.00	50,964.00	50,964.00	5,600.00	5,600.00	20,000.00	20,000.00
8	Furnish and Install 8-Inch FEL&C Sch 20 Air Piping	12	EA	10,000.00	120,000.00	27,971.67	335,660.04 C	19,725.00	236,700.00	20,000.00	240,000.00
9	Demolish 18-Inch Raw Water Inlet Piping	12	EA	5,000.00	60,000.00	3,270.00	39,240.00	942.00	11,304.00	1,500.00	18,000.00
10	Demolish 18-Inch Valve, Valve Actuator, and Stem Extension	12	EA	5,000.00	60,000.00	621.00	7,452.00	942.00	11,304.00	1,500.00	18,000.00
11	Furnish and Install 18-Inch FEL&C Sch 20 Raw Water Piping	12	EA	15,000.00	180,000.00	31,129.00	373,548.00	32,375.00	388,500.00	35,000.00	420,000.00
12	Install Owner Furnished 18-Inch Valve, Valve Actuator, and Stem Extension	12	EA	5,000.00	60,000.00	4,312.00	51,744.00	942.00	11,304.00	4,000.00	48,000.00
13	Electrical and Instrumentation Upgrades and Startup Testing	1	LS	900,000.00	900,000.00	409,370.00	409,370.00	860,900.00	860,900.00	780,000.00	780,000.00
14	Modifications to Existing Guardrail	1	LS	15,000.00	15,000.00	15,010.00	15,010.00	57,200.00	57,200.00	35,000.00	35,000.00
15	Furnish and Install Platform and Guardrail	1	LS	50,000.00	50,000.00	308,250.00	308,250.00	224,000.00	224,000.00	200,000.00	200,000.00
16	Allowance for Owner directed Work not part of the Contract Work	1	Allow.	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
TOTAL BID PRICE (ITEMS 1-16):					\$ 1,667,500.00 A		\$ 1,755,339.04 C		\$ 1,898,612.00		\$ 1,973,000.00
17	Optional bid item - Accelerate schedule to accomplish Substantial Completion by March 31, 2024 and Final Completion by April 30, 2024	1	LS	40,000.00	40,000.00	0.00	0.00	34,000.00	34,000.00	75,000.00	75,000.00
TOTAL BID PRICE + OPTIONAL BID ITEM (ITEMS 1-17):					\$ 1,707,500.00 B		\$ 1,755,339.04 C		\$ 1,932,612.00		\$ 2,048,000.00

Footnotes:

A The apparent low bidder is determined by the total sum of bid items 1-16.

B For Bid Items 1-17, Contractor's numerical total was shown as \$1,707,000.00, but their written word total was \$1,707,500.00. Per specification section 00200 (Instructions to Bidders), discrepancies between written words and figures are to be resolved in favor of the words. District fixed this error.

C Contractor rounded their sum total for line item 8 down to \$335,660.00. Per specification section 00200 (Instructions to Bidders), bid item total discrepancy is to be corrected in favor of the unit price. District fixed this difference which carried through the totals.

THIS TABULATION REPRESENTS A TRUE AND COMPLETE SUMMARY OF BIDS RECEIVED BY EL DORADO IRRIGATION DISTRICT

PROJECT NO. 22038.01, CONTRACT NO. E23-15

PREPARED BY: Lori Bazinet
District Contract Management

SUBMITTED BY:



Tracey Eden-Bishop, P.E., Senior Civil Engineer

Project Number: 22038
Project Name: Reservoir A Filter Valve Replacements
Project Category: Reliability & Service Level Improvements
Priority: 2 **PM:** Money **Board Approval:** 11/14/22

Project Description:

The existing filter inlet valves (twelve in total) at Reservoir A have reached the end of their service life and are located in configuration that can't be safely accessed for ongoing maintenance. This project will replace the filter inlet valves and their associated piping with a new AWWA compliant valve and operator. An on-call general engineering contract will be used to design piping structural supports for the new valve configuration and to specify all parts and materials for the new configuration. The replacement of all valves is tentatively scheduled for December 2023 through March 2024.

Basis for Priority:

If an inlet valve fails, it has the potential to remove all four adjacent filter basins or one third of the plant capacity. This would reduce the capacity of Reservoir A well below required summer demands. Access to the existing valves also poses a significant safety hazard for District personnel.

Project Financial Summary:			
Funded to Date:	\$ 95,000	Expenditures through end of year:	\$ 95,000
Spent to Date:	\$ -	2023 - 2027 Planned Expenditures:	\$ 1,020,000
Cash flow through end of year:	\$ 95,000	Total Project Estimate:	\$ 1,115,000
Project Balance	\$ -	Additional Funding Required	\$ 1,020,000

Description of Work	Estimated Annual Expenditures					Total
	2023	2024	2025	2026	2027	
Design	\$ 20,000					\$ 20,000
Construction	\$ 500,000	\$ 500,000				\$ 1,000,000
TOTAL	\$ 520,000	\$ 500,000	\$ -	\$ -	\$ -	\$ 1,020,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		\$520,000
Total	100%		\$520,000

Funding Comments:



Reservoir A Filter Valve Replacement Project

Construction Contract Award and Project Funding

Project No. 22038.01

October 23, 2023

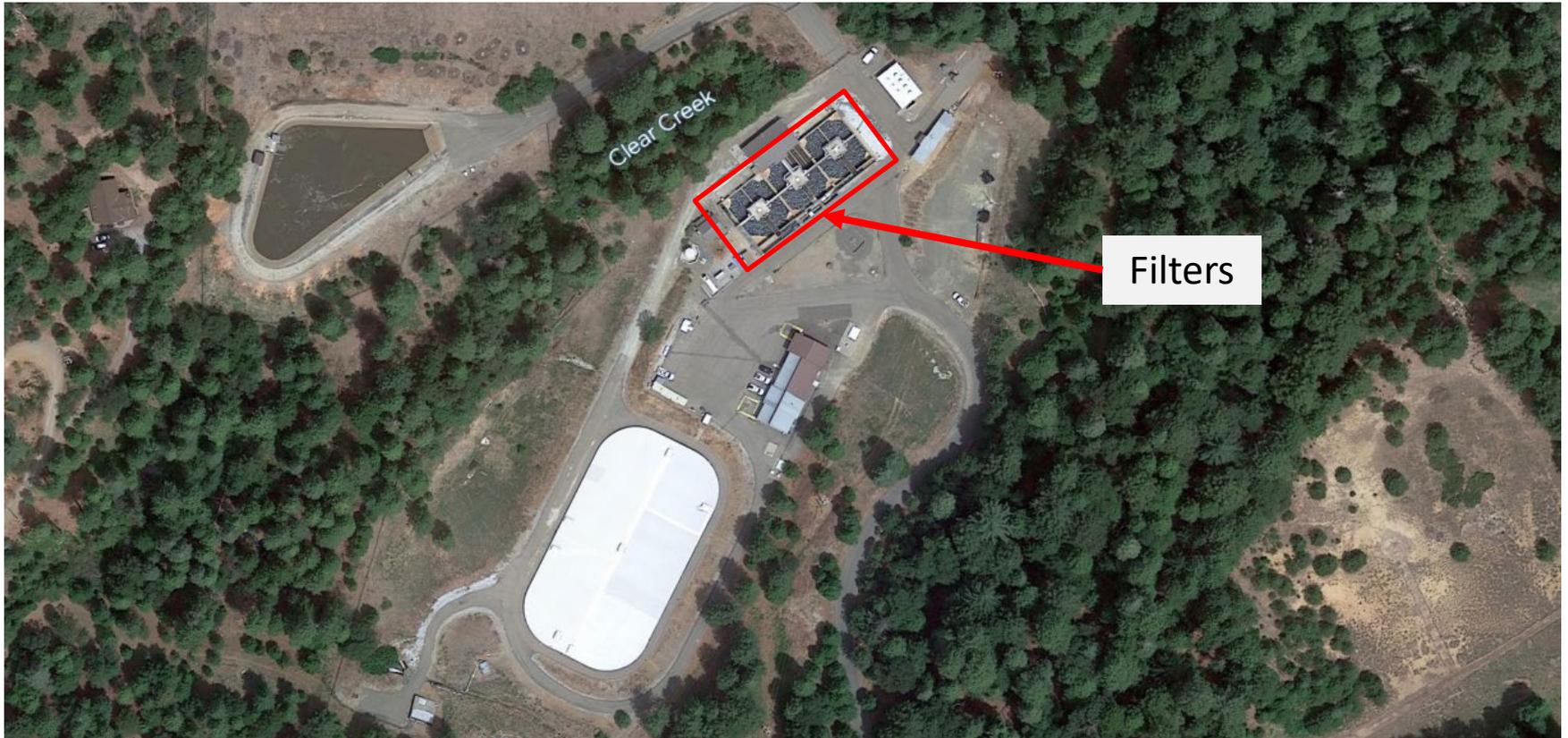
Previous Board Actions

- November 14, 2022 – Board approved the 2023-2027 Capital Improvement Plan (CIP), subject to available funding.
- April 24, 2023 – Board awarded a contract to KPR Consulting, Inc. in the not-to-exceed amount of \$229,280 for the purchase of filter valves and authorized additional funding in the amount of \$25,000 for capitalized labor for a total funding request of \$254,280 for the Reservoir A Filter Valve Replacement Project, Project No. 22038.01.

Summary of Issue

- Reservoir A Water Treatment Plant (Res A WTP) filter inlet valves have reached the end of their service lives and some failures have been observed
- Failure of one inlet valve can reduce Reservoir A treatment capacity by one third, below what is needed to meet summer demands

Background



Reservoir A Water Treatment Plant

Background



Filter Complex

Background

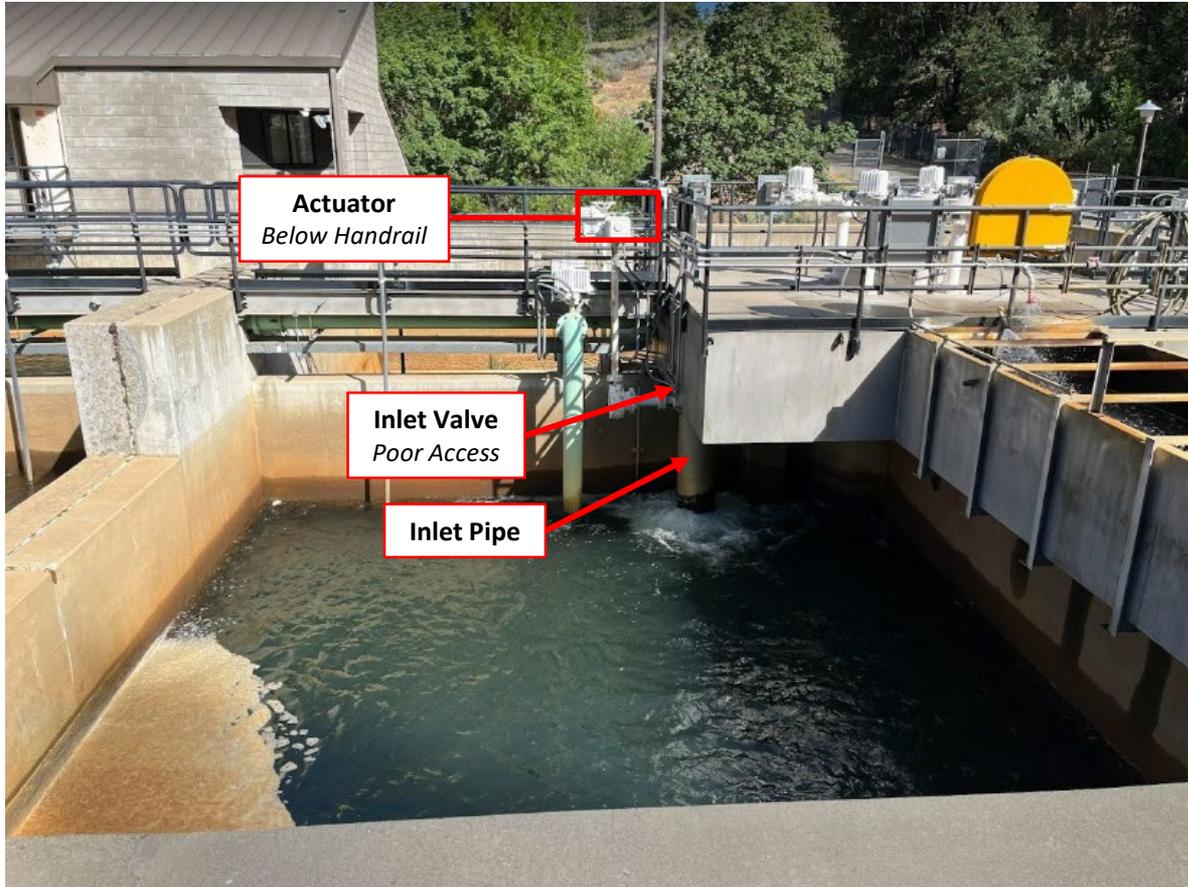
- Res A operates 12 filters, grouped in 3 clusters
 - Filters 1 - 8 installed in 1989
 - Filters 9-12 installed in 1998
- Failure of one inlet valve may cause an entire cluster of filters to be taken out of service
- Filter would have to be taken out of service to access valves safely
- Gear boxes exposed to water

Background

- WTP Asset Management Plan
 - Categorized as "Very High Risk"
 - 2023 implementation
- Board authorized filter valve purchase April 2023
- Valves scheduled for December delivery

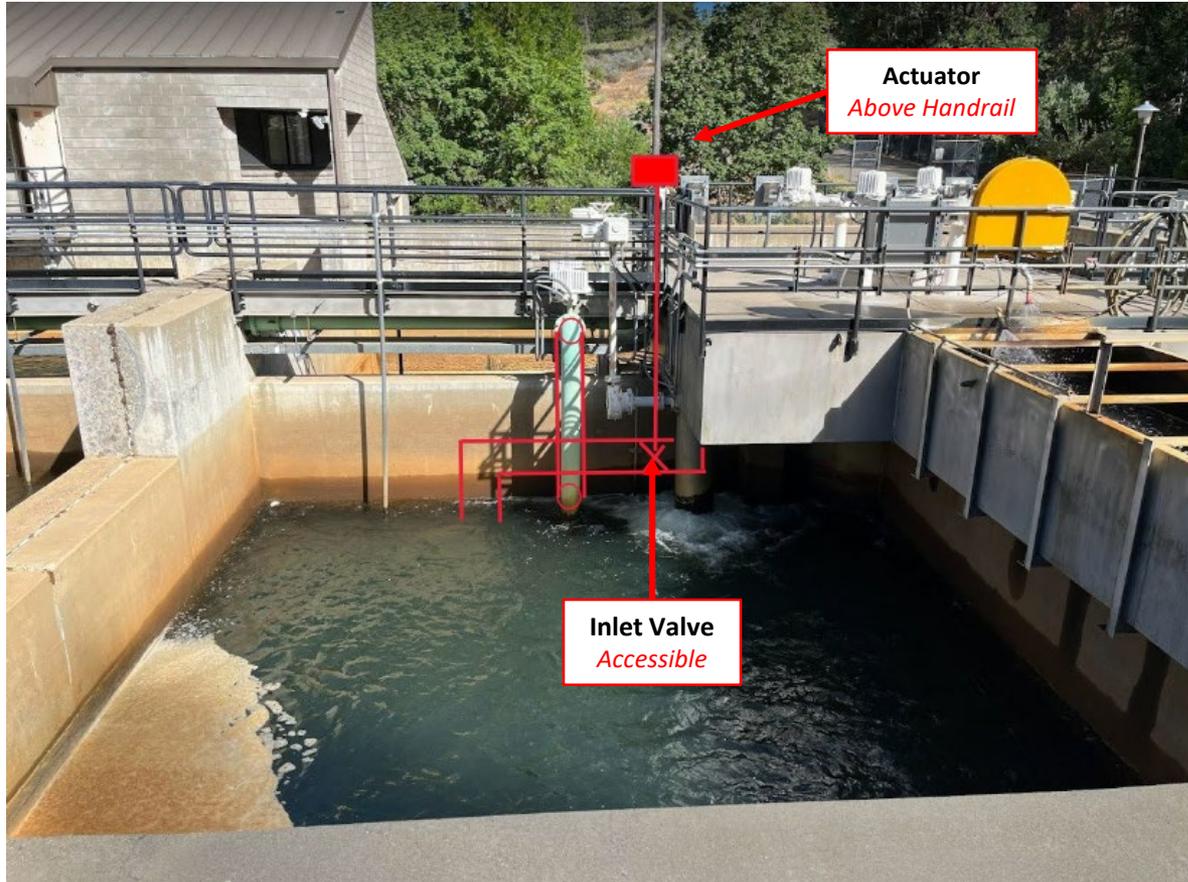
Background

Current Configuration



Background

New Configuration



Scope of Construction Contract

- Replace valves and modify piping
 - Longer lifespan for valves/actuators
 - Piping modifications for safe access
- Grating around valves
 - Safe access to valves and operators
- Electrical/instrumentation
 - Operational flexibility
 - Valve automation

Construction Contract

- Original bid advertisement
 - August 2023
 - All bids rejected due to bid protest
- Re-bid
 - Advertisement in September 2023
 - Bids received on October 11, 2023
- Optional bid item added
 - Accelerate schedule

Construction Contract

Contractor	Base Bid	Base Bid + Optional Item
Big Valley Electric	\$1,667,500	\$1,707,500
Bayview Engineering and Construction Co.	\$1,755,339	\$1,755,339
TNT Industrial Contractors	\$1,898,612	\$1,932,612
T&S Construction Company	\$1,973,000	\$2,048,000

- Accelerated schedule
 - \$40,000
 - Filters back on line end of March
- Engineer’s estimate \$1,700,000
- Award to Big Valley Electric w/accelerated schedule

Environmental Review

- Project is exempt from the California Environmental Quality Act (CEQA)
 - Replacement or reconstruction of existing structures and facilities
- If project is approved, staff will file a Notice of Exemption from CEQA

Funding

- Identified in 2023-2027 CIP with \$1.02 million over the five year period
 - Conceptual level estimate
- Expanded scope of work
 - Safety
 - Electrical/instrumentation
- Other cost factors
 - Limited shut down periods
 - Complex shutdown sequencing
 - Inflationary pressure

Additional Funding

	Cost
Construction award – Big Valley Electric	\$1,707,500
Engineering during construction	\$94,719
Construction management	\$34,685
Inspection services	\$24,960
Capitalized labor	\$26,000
10% project contingency	\$192,786
Total funding request	\$2,080,650

*Funding available to accommodate increased cost

Board Options

- **Option 1:** Award a contract to Big Valley Electric in the not-to-exceed amount of \$1,707,500 for the construction of the Reservoir A Valve Replacement Project; and authorize additional funding of \$94,719 for engineering services during construction, \$34,685 for construction management, \$24,960 for inspection services, \$26,000 for capitalized labor, and \$192,786 in construction contingency for a total funding request of \$2,080,650 for the Reservoir A Filter Valve Replacement Project, Project No. 22038.01.
- **Option 2:** Take other action as directed by the Board
- **Option 3:** Take no action

Recommendation

- Option 1

Questions/Comments

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider awarding contracts to Riverview International in the not-to-exceed amount of \$257,923 for the purchase of one replacement water truck and Imperial Industries Inc. in the not-to-exceed amount of \$229,163 for the purchase of one replacement vacuum pumper truck and authorize funding of \$20,633.84 in contingency for a total funding request of \$507,719.84 for the 2024 Vehicle Replacement Program, Project No. 24003.

PREVIOUS BOARD ACTION

October 11, 2022 – Board awarded contracts to Downtown Ford in the not-to-exceed amount of \$120,000 for the purchase of two replacement vehicles and Pape Machinery in the not-to-exceed amount of \$135,000 for the purchase of one compact excavator and one three-axle equipment trailer; and authorized funding of \$255,000 for the 2023 Vehicle Replacement Program, Project No. 23003.

October 24, 2022 – Board awarded a contract to Norcal Kenworth in the not-to-exceed amount of \$482,219 for the purchase of two replacement trucks and authorized funding of \$482,219 for the 2023 Vehicle Replacement Program, Project No. 23003.

November 14, 2022 – Board adopted the 2023-2027 Capital Improvement Plan (CIP), which included the Vehicle Replacement Program subject to available funding.

September 25, 2023 – Board awarded contracts to Downtown Ford in the not-to-exceed amount of \$802,000, Watsonville Fleet Group in the not-to-exceed amount of \$189,398, and Winner Chevrolet in the not-to-exceed amount of \$1,360,000 for the purchase of 21 replacement trucks, and authorized the General Manager to approve contracts for the purchase of four additional replacement vehicles in the not-to-exceed amount of \$170,000 for a total funding request of \$2,521,398 for the 2024 Vehicle Replacement Program, Project No. 24003.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 3060 Contracts and Procurement

AR 3061.04 Procurement and Contract Authority

SUMMARY OF ISSUE

Staff recommends replacing vehicles and equipment that are beyond their normal service life and experiencing higher maintenance costs and downtime, which impacts District standards of service to customers. The recommended purchases represent the most economical option for vehicle replacement and help ensure that the District has a sufficient fleet to provide District services reliably. The ongoing industry shortage of vehicles continues to limit the availability of replacement vehicles, making securing orders with manufacturers even more critical. In addition, the new Advanced Clean Fleets regulations recently adopted by the California Air Resources Board (CARB) create greater uncertainty regarding the ability to obtain replacement vehicles moving forward, both in terms of the availability of electric vehicles (EV) that can meet the District's fleet needs and in terms of creating greater demand for combustion engine vehicles in the short term. Therefore, staff recommends obtaining the necessary replacement trucks as soon as possible to navigate the purchasing challenges and maintain safe and reliable District operations in the years ahead.

BACKGROUND/DISCUSSION

The District maintains a significant fleet of equipment and vehicles to support the District's ongoing water, wastewater, hydroelectric, and recreational services. The District also employs a regular fleet maintenance, repair, and replacement program to maintain reliability, reduce the probability of more significant and unexpected expenses, and maintain or improve service and safety standards. The District's vehicle replacement criteria are utilized to determine when it may be necessary to replace vehicles. Criteria include age, condition, mileage, maintenance costs, downtime, improved fuel efficiency opportunities, driver and public safety risks, regulatory (emissions) restrictions, and changing support requirements.

The two vehicles proposed for replacement are beyond their normal service life or are being phased out due to increasingly stringent emissions standards and are subject to a higher rate of maintenance costs and downtime, which impact District standards and service to customers.

The District currently owns and operates two water trucks, which are used to meet fugitive dust control requirements during construction activities. Due to changing emissions standards, the water truck requested for replacement must be phased out. Given the low overall mileage of this vehicle, when this vehicle goes to the auction (standard for all surplus vehicles), staff anticipate recouping significant value.

The District currently owns and operates two vacuum pumper trucks that are essential for the proper operation and maintenance of the District's sanitary sewer collection system. These trucks are highly specialized vehicles the collections staff routinely use for pumping and hauling wastewater during emergency response and other maintenance activities. The pumper trucks are essential for responding to sanitary sewer overflows (SSOs) and providing critical equipment for flow control operations. The pumper truck requested for replacement has impacted operations due to multiple breakdowns during emergency response efforts and extended downtimes due to multiple required repairs. Further, it must be phased out due to changing emissions standards.

Vehicles and equipment to be replaced

- (1) 2005 Volvo 6X4 water truck with 23,450 miles (obsolete retrofit DPF system)
- (1) 2007 International 7500 SBA 6X4 Vacuum pumper truck with 83,424 miles (obsolete retrofit DPF system)

Procurement process

The District issued a Request for Bid (RFB) for both vehicles. The District received one bid from Riverview International, who only bid on the water truck. Given that no bids were submitted for the vacuum pumper truck, staff searched for existing trucks for sale. Staff located a pumper truck at Imperial Industries Inc. in Wisconsin and placed a deposit to hold the vehicle pending Board approval.

<i>Replacement from Riverview International Trucks, LLC</i>	
Vehicle Type	Price
(1) International HX620 water truck	\$ 257,923.00
8% contingency for unexpected cost increases during build process	20,633.84
Total price	\$ 278,556.84
<i>Replacement from Imperial Industries Inc.</i>	
Vehicle type	Price
(1) Freightliner TMV4000 vacuum pumper truck	\$ 224,363
Delivery fee	4,800
Total price	\$ 229,163

FUNDING

Funding for these replacement trucks will come from the 2024 Vehicle Replacement Program, as identified in the 2023-2027 CIP plan. Due to long lead times and cost increases at the time of delivery, staff requests contingency funding for these unforeseen costs.

BOARD OPTIONS

Option 1: Award contracts to Riverview International in the not-to-exceed amount of \$257,923 for the purchase of one replacement water truck and Imperial Industries Inc. in the not-to-exceed amount of \$229,163 for the purchase of one replacement vacuum pumper truck and authorize funding of \$20,633.84 in contingency for a total funding request of \$507,719.84 for the 2024 Vehicle Replacement Program, Project No. 24003.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

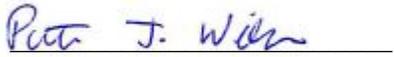
Attachment A: RFB P23-011-RD results

Attachment B: Imperial Industries, Inc. quote

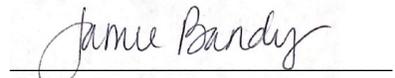
Attachment C: CIP summary


Greg Royal
Fleet Maintenance Supervisor


Tracy Crane
Wastewater/Recycled Water Division Manager


Patrick Wilson
Drinking Water Operations Manager


Dan Corcoran
Operations Director


Jamie Bandy
Finance Director


Brian Poulsen
General Counsel


Jim Abercrombie
General Manager

RFB#: P23-011-RD
Project No. TBD



Service Trucks for District Fleet

Request for Bids P23-011-RD

Due Date: Sept 25, 2023 at 3:00 PM

In accordance with the Americans with Disabilities Act and California law, it is the policy of the El Dorado Irrigation District to offer its public programs, services and meetings in a manner that is readily accessible to everyone, including individuals with disabilities. If you are a person with a disability and require information or materials in an appropriate alternative format; or if you require any other accommodation, please contact the ADA Coordinator at the number or address below at least 72 hours prior to the meeting or when you desire to receive services. Advance notification within this guideline will enable the District to make reasonable arrangements to ensure accessibility. The District ADA Coordinator can be reached at: Phone: (530) 642-4045; email: adacoordinator@eid.org.

INTRODUCTION

El Dorado Irrigation District (District), an irrigation special district organized and existing under the California Irrigation District Law (Water Code § 20500, et seq.), hereby gives notice that it is now accepting Bids for 2ea service trucks. The District intends to award each truck to the lowest bidding vendor; award may be split to multiple vendors.

BID SPECIFICATION

The District is seeking bids for 2ea service trucks. One Water Truck as defined in Exhibit A (attached). One septic pumping truck as identified in Exhibit A (attached). Please reference the bid specification for the desired configuration of each truck. It is not a requirement to bid on both trucks. Each truck will be awarded to the low bidder who meets all desired specification requirements.

BID SUBMISSION

Bids may be mailed, dropped off or e-mailed no later than 3:00PM September 25, 2023. Mailed and dropped off **Bids must be in a sealed envelope marked “(BIDDER’S COMPANY NAME) BID FOR P23-011-RD - DO NOT OPEN”** to El Dorado Irrigation District (EID) Headquarters located at:

**El Dorado Irrigation District
2890 Mosquito Road
Placerville, CA 95667**

If delivered by mail the Bidder must allow sufficient time for delivery by the deadline. Any Bids not received by the deadline will be rejected.

Bids submitted via email shall be addressed to Buyer at:
Email: rdeakayne@eid.org

Envelopes will be time stamped by the District to reflect their submittal time. It is the responsibility of the bidder to assure that the bid is received prior to the deadline date and time. Bids received after the submission deadline will not be accepted.

Bidder may withdraw its bid by written request via email to Purchasing@eid.org before the Submittal Deadline. After that time, bidder may not withdraw its bid for a period of ninety (90) days from the Submittal Deadline.

If using an overnight or similar mailing/delivery service to submit bid, the bid must be in a separate sealed envelope inside the mailing/delivery service envelope. The **exterior** delivery envelope must also be labeled as above. **DO NOT** use a mailing/delivery service envelope as the means to seal the proposal. The District is not responsible for

proposals that are unidentified and opened before the deadline. They may be automatically rejected.

Where there are conflicts between unit prices and extended prices, unit prices will govern. Where there are conflicts between words and figures, words will govern.

Where bidder does not indicate discount payment terms in its bid, the District will take it to mean that bidder does not offer discount payment terms, and therefore the payment will be considered due Net 30 days after receipt of invoice.

The District's acceptance of bidder's offer shall be limited to the terms herein, including all attachments hereto, unless expressly agreed in writing by the District's authorized representative. Bids offering terms other than those shown herein may be declared non-responsive and may not be considered.

All bids shall comply with current federal, state, local and other laws relative thereto.

The terms Successful Bidder, Bidder, and Contractor may be used interchangeably in this solicitation and shall refer exclusively to the person, company, or corporation with whom the District enters into a contract as a result of this solicitation.

The El Dorado Irrigation District reserves the right to waive informalities or technicalities in bids.

Bid signer represents that he/she is duly authorized to execute and sign documents on behalf of his/her respective entity.

BACKGROUND INFORMATION

The District is located in El Dorado County, on the western slope of the Sierra Nevada Mountains. Its contiguous service area covers approximately 220 square miles and 100,000 residents, ranging from El Dorado Hills in the west to Strawberry in the east, and from the South Fork American River in the north to the Cosumnes River in the south. The District also owns and operates Project 184, a FERC-licensed hydroelectric project including high mountain lakes in the vicinity of Lake Tahoe.

The District provides treated water, wastewater treatment and disposal, recycled water, and recreation services and operates FERC Hydroelectric Project 184. It is a local public agency, governed by a five-member, elected board of directors with approximately 210 employees. Additional information about the District is available at its website, www.eid.org.

The District operates two campgrounds, the Sly Park Recreation Area, located in Pollock Pines, and the Silver Lake West Campground, located in Pioneer.

REQUIRED BID ITEMS

1. BID PRICE SHEET
2. NON-COLLUSION DECLARATION

QUESTIONS/ADDENDA

Any questions about this RFB shall be submitted in writing (via e-mail only) to Senior Buyer, Ryan Deakyne:

E-mail: rdeakyne@eid.org

To be considered, questions must be received by the District no later than 3pm PST September 15, 2023.

ADDENDA

The District may, if deemed necessary, respond to such questions by issuance of formal written addenda, interpreting or clarifying the requirements of this RFB. The District may also issue addenda to modify the RFB as deemed advisable by the District. All such addenda shall be part of this RFB and binding upon each Bidder. The District may, upon inquiry, orally direct a firm's attention to specific provisions of the RFB which cover the subject of the inquiry. However, all supplemental information provided by the District during the RFB process shall not be binding unless communicated by formal written addenda. All addenda will be posted on the District's website ([Procurement and Contracts | El Dorado Irrigation District \(eid.org\)](#)). Each Bidder is solely responsible for obtaining all addenda posted on the District's website.

FINAL SELECTION

Award will be made to the lowest cost responsive responsible bidder. The District will conduct an internal review to determine responsiveness.

The Proposer's signed Bid and El Dorado Irrigation District's acceptance by its Board of Directors, or when Board approval is unnecessary, by the execution of a written agreement signed by all appropriate District personnel, shall constitute a binding contract.

The District reserves the right to reject any or all Bids and to re-issue this RFB. The District may waive any minor informalities or irregularities in any Bid that are immaterial and inconsequential in nature. The District reserves the right to request additional written or oral information from proposers to obtain clarification of their Bids.

All Bids become the property of the District. All costs associated with development of the Bid shall be the sole responsibility of the firm and shall not be charged in any manner to the District. The entirety of Bid content offered shall comply with current federal, state, local and other laws relative thereto.

PROTEST PROCEDURE

Any protest concerning the award of contract hereunder must be submitted in writing to the District's Legal Counsel at 2890 Mosquito Road, Placerville, CA 95667 on or before 5:00 p.m. of the fifth (5th) calendar day following the District's posting of Notice of Intent to Award the contract at the entry to the District's Customer Service Building at the aforementioned address and on the District's website at www.eid.org. The procedure and time limit set forth in this paragraph are mandatory and are bidder's sole and exclusive remedy in the event of a protest of award of the contract and failure to pursue said remedy shall constitute a waiver of any right to further pursue said protest, including filing a Government Code claim or legal proceedings.

BID PRICE SHEET

**** Please check your calculations before submitting your bid;
El Dorado Irrigation District will not be responsible for Bidder miscalculations****

Truck	Description	Lead Time in Weeks	Brand/Model	Price Including Tax, Shipping etc.
1.	Water Truck	400+ DAYS	INTERNATIONAL HK620	\$257,922.04
2.	Septic Pumping Truck	*NO BID	for line item #2 *	
		Total		\$257,922.04

* Bid is for line 1 only. Riverview is not bidding line 2.

Bid Price Written In Words:

Two Hundred fifty seven thousand, nine hundred twenty two dollars and four cents.

Riverview INTERNATIONAL
TRUCKS, LLC.

Bidder Name (Person, Firm, Corp.)

JASON GARRELL

Name of Authorized Representative

SALES MANAGER

Title of Authorized Representative



Signature of Authorized Representative

END OF BID PRICE SHEET

NON-COLLUSION DECLARATION
PUBLIC CONTRACT CODE §7106

NON-COLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the PARTNER of Riverview International Trucks, LLC, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on 9/25/23 [date], at West Sacramento [city], California [state].

Riverview International Trucks, LLC
(Name of Bidder)
[Signature]
(Signature)
PARTNER
(Title)

(If Bidder is a partnership or a joint venture, this declaration must be signed by every member of the partnership or venture. Print as many forms as needed and submit.)

(If Bidder [including any partner or venturer of a partnership or joint venture] is a corporation, this declaration must be signed by the Chairman, President, or Vice President and by the Secretary, Assistant Secretary, Chief Financial Officer, or Assistant Treasurer. Print as many forms as needed and submit.)

Prepared For:
EL DORADO IRRIGATION DIS
Greg Royal
2890 Mosquito Rd.
Placerville, CA 95667-4700
(916)642 - 4046
Reference ID: N/A

Presented By:
RIVERVIEW INTL TRKS, LLC
Jason Farrell
2445 EVERGREEN AVENUE
WEST SACRAMENTO CA 95691 -
(916)371-3110

Thank you for the opportunity to provide you with the following quotation on a new International truck. I am sure the following detailed specification will meet your operational requirements, and I look forward to serving your business needs.

Model Profile
2024 HX620 SBA (HX620)

AXLE CONFIG:	6X4
APPLICATION:	Water Tank
MISSION:	Requested GVWR: 54000. Calc. GVWR: 60000. Calc. GCWR: 125000 Calc. Start / Grade Ability: 42.06% / 3.63% @ 55 MPH Calc. Geared Speed: 74.7 MPH
DIMENSION:	Wheelbase: 201.00, CA: 132.00, Axle to Frame: 81.00
ENGINE, DIESEL:	{Cummins X15 450V} Productivity Series, EPA 2024, 450HP @ 1900 RPM, 1750 lb-ft Torque @ 900 RPM, 2000 RPM Governed Speed, 461 Peak HP (Max)
TRANSMISSION, AUTOMATIC:	{Allison 4500 RDS} 6th Generation Controls, Wide Ratio, 6-Speed with Double Overdrive, with PTO Provision, Less Retarder, Includes Oil Level Sensor, On/Off Highway
CLUTCH:	Omit Item (Clutch & Control)
AXLE, FRONT NON-DRIVING:	{Meritor MFS-20-133A} Wide Track, I-Beam Type, 20,000-lb Capacity
AXLE, REAR, TANDEM:	{Meritor MT-40-14X-4DCR} Single Reduction, 40,000-lb Capacity, .433"(11mm) Wall Housing Thickness, Driver Controlled Locking Differential in Forward-Rear and Rear-Rear Axle, R Wheel Ends Gear Ratio: 4.88
CAB:	Conventional, Day Cab
TIRE, FRONT:	(2) 315/80R22.5 Load Range L HAU 3 WT (CONTINENTAL), 480 rev/mile, 68 MPH, All-Position
TIRE, REAR:	(8) 11R22.5 Load Range G HDR2+ (CONTINENTAL), 491 rev/mile, 75 MPH, Drive
SUSPENSION, REAR, AIR, TANDEM:	{Hendrickson HAS-402-55} 40,000-lb Capacity, 55" Axle Spacing, 9.5" Ride Height, with Shock Absorbers
PAINT:	Cab schematic 100LZ Location 1: 9219, Winter White (Std) Chassis schematic N/A

Description

Base Chassis, Model HX620 SBA with 201.00 Wheelbase, 132.00 CA, and 81.00 Axle to Frame.

AXLE CONFIGURATION

AXLE CONFIGURATION {Navistar} 6x4

Notes

: Pricing may change if axle configuration is changed.

ENGINE

ENGINE, DIESEL {Cummins X15 450V} Productivity Series, EPA 2024, 450HP @ 1900 RPM, 1750 lb-ft Torque @ 900 RPM, 2000 RPM Governed Speed, 461 Peak HP (Max)

EMISSION, CALENDAR YEAR {Cummins X15} EPA, OBD and GHG Certified for Calendar Year 2024

CARB EMISSION WARR COMPLIANCE for Cummins X15 Engines Less than or Equal to 500 HP

CARB IDLE COMPLIANCE Low NOx Idle Engine, Complies with California Clean Air Regulations; Includes "Certified Clean Idle" Decal on Hood

EPA IDLE COMPLIANCE Low NOx Idle Engine, Complies with EPA Clean Air Regulations; Includes "Certified Clean Idle" Decal on Hood

VEHICLE REGISTRATION IDENTITY ID for the State of California

RADIATOR Aluminum, Welded, Down Flow, Front to Back System, 1325 SqIn, with 806 SqIn Charge Air Cooler

Includes

: RADIATOR HOSES Premium, Rubber

FAN DRIVE {Horton Drivemaster} Two-Speed Type, Direct Drive, with Residual Torque Device for Disengaged Fan Speed

Includes

: FAN Nylon

AIR CLEANER Single Element, with Pre-Cleaner, Engine Mounted

ANTI-FREEZE Red, Extended Life Coolant; To -40 Degrees F/ -40 Degrees C, Freeze Protection

FAN DRIVE SPECIAL EFFECTS Fan Cooling Ring with Fan Shroud Effects, Engine Mounted

HOSE CLAMPS, RADIATOR HOSES {Gates} Shrink Band Type

RADIATOR DRAIN & FILL FITTING SPECIAL; To Vacuum Out or Fill the Cooling System from the Bottom of Radiator, for Use with Quick-Connect Radiator Drain Tool or Shop Coolant Evacuation-Fill System

TRANSMISSION

TRANSMISSION, AUTOMATIC {Allison 4500 RDS} 6th Generation Controls, Wide Ratio, 6-Speed with Double Overdrive, with PTO Provision, Less Retarder, Includes Oil Level Sensor, On/Off Highway

ALLISON SPARE INPUT/OUTPUT for Rugged Duty Series (RDS) and Regional Haul Series (RHS), General Purpose Trucks, Construction, Package Number 223

NEUTRAL AT STOP Allison Transmission Shifts to Neutral When Service Brake is Depressed and Vehicle is at Stop; Remains in Neutral Until Service Brake is Released

OIL COOLER, TRANSMISSION {Modine} Remote Mounted; Not for use with Retarder, for Automatic Transmission

SHIFT CONTROL PARAMETERS {Allison} 3000 or 4000 Series Transmissions, Performance Programming

TRANSMISSION OIL Synthetic; 63 thru 76 Pints

TRANSMISSION SHIFT CONTROL Column Mounted Stalk Shifter, Not for Use with Allison 1000 & 2000 Series Transmission

Description**CLUTCH**

CLUTCH Omit Item (Clutch & Control)

REAR AXLES, SUSPENSIONS

AXLE, REAR, TANDEM (Meritor MT-40-14X-4DCR) Single Reduction, 40,000-lb Capacity, .433"(11mm) Wall Housing Thickness, Driver Controlled Locking Differential in Forward-Rear and Rear-Rear Axle, R Wheel Ends . Gear Ratio: 4.88

SUSPENSION, REAR, AIR, TANDEM (Hendrickson HAS-402-55) 40,000-lb Capacity, 55" Axle Spacing, 9.5" Ride Height, with Shock Absorbers

SUSPENSION AIR CONTROL VALVE Pressure Release Control In Cab

FRONT AXLES

AXLE, FRONT NON-DRIVING (Meritor MFS-20-133A) Wide Track, I-Beam Type, 20,000-lb Capacity

FRONT SUSPENSIONS

SUSPENSION, FRONT, SPRING Parabolic Taper Leaf, Shackle Type, 20,000-lb Capacity, with Shock Absorbers

CABS, COWLS, BODIES

CAB Conventional, Day Cab

Includes

- : CAB REAR SUSPENSION Air
- : CLEARANCE/MARKER LIGHTS (5) LED Roof Mounted
- : COAT HOOK, CAB Located on Rear Wall, Centered Above Rear Window
- : CONSOLE, CENTER Includes Two Cup Holders and One Additional Storage Area
- : CONSOLE, OVERHEAD Molded Plastic with Dual Storage Pockets, Retainer Nets and CB Radio Pocket; Located Above Driver and Passenger
- : COURTESY LIGHT (2) Driver and Passenger Door Mounted
- : DOME LIGHT, CAB Rectangular, Door and Instrument Panel Mounted Switch Activated, Timed Theater Dimming, Center Mounted, Integral to Console
- : FLOOR COVERING Rubber, Black
- : GLASS, ALL WINDOWS Tinted
- : GRAB HANDLE, CAB INTERIOR (1) "A" Pillar Mounted, Passenger Side
- : GRAB HANDLE, CAB INTERIOR (4) "B" Pillar and Door Mounted, Two Each Side
- : READING LIGHT, CAB Located in Overhead Console
- : STORAGE POCKET, DOOR (2) Full Length, Driver and Passenger Door

ACCESS, CAB Aluminum, Driver & Passenger Sides, Two Steps per Door, for use with Day Cab or Sleeper Cab

AIR CONDITIONER with Integral Heater and Defroster

Includes

- : HOSE CLAMPS, HEATER HOSE Mubea Constant Tension Clamps

CAB INTERIOR TRIM Diamond, for Day Cab

FRESH AIR FILTER Attached to Air Intake Cover on Cowl Tray in Front of Windshield Under Hood

GAUGE CLUSTER Premium Level; English with English Electronic Speedometer

Includes

- : GAUGE CLUSTER DISPLAY: Base Level (3" Monochromatic Display), Premium Level (5" LCD Color Display); Odometer, Voltmeter, Diagnostic Messages, Gear Indicator, Trip Odometer, Total Engine Hours, Trip Hours, MPG, Distance to Empty/Refill for
- : GAUGE CLUSTER Speedometer, Tachometer, Engine Coolant Temp, Fuel Gauge, DEF Gauge, Oil Pressure Gauge, Primary and Secondary Air Pressure

Description

: WARNING SYSTEM Low Fuel, Low DEF, Low Oil Pressure, High Engine Coolant Temp, Low Battery Voltage (Visual and Audible), Low Air Pressure (Primary and Secondary)

GAUGE, OIL TEMP, AUTO TRANS for Allison Transmission

GRAB HANDLE, EXTERIOR (2) Chrome, Towel Bar Type, with Anti-Slip Rubber Inserts, for Cab Entry Mounted Left and Right Side at B-Pillar

INSTRUMENT PANEL Wing Panel

IP CLUSTER DISPLAY On Board Diagnostics Display of Fault Codes in Gauge Cluster

MIRRORS (2) C-Loop, Power Adjust, Heated, Black Heads and Arms, 7.5" x 14" Flat Glass, Includes 7.5" x 7" Convex Mirrors, for 102" Load Width

Notes

: Mirror Dimensions are Rounded to the Nearest 0.5"

MODESTY PANEL Painted

MONITOR, TIRE PRESSURE Omit

SEAT, DRIVER {ISRI} Series 300, Air Suspension, High Back, Vinyl, Single Chamber Lumbar, Inboard Armrest, Suspension Cover, Fore/Aft Isolator, Cushion Extension, Seat Tilt

SEAT, PASSENGER {National} Non Suspension, High Back with Integral Headrest, Vinyl, with Fixed Back, with Under Seat Storage

WINDOW, POWER (2) and Power Door Locks, Left and Right Doors, Includes Express Down Feature

FRAMES

FRAME RAILS Heat Treated Alloy Steel (120,000 PSI Yield); 12.50" x 3.750" x 0.500" (317.5mm x 95.25mm x 12.7mm); 480.8" (12212mm) Maximum OAL

BUMPER, FRONT Contoured, Steel, Painted, Heavy Duty, for HX

CROSSMEMBER, FRAME TIE for Heavy Duty

WHEELBASE RANGE 191" (485cm) Through and Including 236" (600cm)

BRAKES

BRAKE SYSTEM, AIR Dual System for Straight Truck Applications

Includes

: BRAKE LINES Color and Size Coded Nylon

: PARKING BRAKE CONTROL Yellow Knob, Located on Instrument Panel

: PARKING BRAKE VALVE For Truck

: QUICK RELEASE VALVE On Rear Axle for Spring Brake Release: 1 for 4x2, 2 for 6x4

: SPRING BRAKE MODULATOR VALVE SR-7 with relay valve for 6x4/8x6

AIR BRAKE ABS {Bendix AntiLock Brake System} 4-Channel (4 Sensor/4 Modulator) Full Vehicle Wheel Control System, with Automatic Traction Control

BRAKE, PARKING Manual Push-Pull Pneumatic Parking Brake

BRAKES, FRONT {Meritor 16.5X6 Q-PLUS CAST} Air S-Cam Type, Cast Spider, Fabricated Shoe, Double Anchor Pin, Size 16.5" X 6", 23,000-lb Capacity

BRAKE CHAMBERS, FRONT AXLE {Bendix} 24 SqIn

SLACK ADJUSTERS, FRONT {Gunite} Automatic

BRAKES, REAR {Meritor 16.5X7 Q-PLUS CAST} Air S-Cam Type, Cast Spider, Fabricated Shoe, Double Anchor Pin, Size 16.5" X 7", 23,000-lb Capacity per Axle

Description

BRAKE CHAMBERS, REAR AXLE {Bendix EverSure} 30/30 Sqn Spring Brake

SLACK ADJUSTERS, REAR {Gunitex} Automatic

PARK BRAKE CHAMBERS, ADDITIONAL (2) Spring Brake Type

AIR COMPRESSOR {Cummins} 18.7 CFM

AIR DRYER {Bendix AD-HF} with Heater, Includes Pressure Protection Circuits, Safety Valve, Integral Purge Tank, Governor Pressure Settings 110 psi Cut-In/130 psi Cut-Out, Integrated PuraGuard Coalescing Filtration

AIR DRYER LOCATION Mounted Inside Left Rail, Back of Cab

AIR TANK LOCATION (2) : One Mounted Under Each Rail, Front of Rear Suspension, Parallel to Rail

DRAIN VALVE (2) {Berg} with Pull Chains, for Air Tanks

STEERING

STEERING GEAR (2) {Sheppard M100/M80} Dual Power

STEERING COLUMN Tilting and Telescoping

STEERING WHEEL 4-Spoke; 18" Dia., Black

DRIVELINES

DRIVELINE SYSTEM {Dana Spicer} SPL250 Main Driveline with SPL170 Interaxle Shaft, for 6x4

EXHAUST SYSTEMS

EXHAUST SYSTEM Horizontal Aftertreatment System, Frame Mounted Right Side Under Cab, for Single Vertical Tail Pipe, Cab Mounted Right Side

AFTERTREATMENT COVER Aluminum

ENGINE COMPRESSION BRAKE {Cummins} Interbrake For Cummins Signature/ISX/X15 Engines; Furnished with Engine

EXHAUST HEIGHT 11' 6"

MUFFLER/TAIL PIPE GUARD (1) Aluminum

TAIL PIPE (1) Turnback Type

ELECTRICAL SYSTEMS

ELECTRICAL SYSTEM 12-Volt, Standard Equipment

Includes

: HAZARD SWITCH Push On/Push Off, Located on Instrument Panel to Right of Steering Wheel

: HEADLIGHT DIMMER SWITCH Integral with Turn Signal Lever

: PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light

: STARTER SWITCH Electric, Key Operated

: STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, Combination with Reflector

: WINDSHIELD WIPER SWITCH 2-Speed with Wash and Intermittent Feature (5 Pre-Set Delays), Integral with Turn Signal Lever

: WINDSHIELD WIPERS Single Motor, Electric, Cowl Mounted

ALTERNATOR {Leece-Neville AV1160P2013} Brush Type, 12 Volt, 160 Amp Capacity, Pad Mount

ANTENNA for Increased Roof Clearance Applications

BACK-UP ALARM Electric, 102 dBA

BATTERY BOX Aluminum, with Plastic Cover, 18" Wide, 2-4 Battery Capacity, Mounted Right Side Back of Cab

Description

BATTERY DISCONNECT SWITCH 300 Amp, Disconnects Power to Power Distribution Center (PDC), Does Not Disconnect Charging Circuits, Locks with Padlock, Cab Mounted

BATTERY SYSTEM {Fleetrite} Maintenance-Free, (3) 12-Volt 1980CCA Total, Top Threaded Stud

BODY BUILDER WIRING Rear of Frame; Includes Sealed Connectors for Tail/Amber Turn/Marker/ Backup/Accessory Power/Ground and Sealed Connector for Stop/Turn

CB RADIO Accommodation Package, Header Mounted, Feeds from Accessory Side of Ignition Switch, Includes Power Source, One Antenna and Antenna Base with Wiring on Left Side Mirror

CIRCUIT BREAKERS Manual-Reset (Main Panel) SAE Type III with Trip Indicators, Replaces All Fuses

HEADLIGHT WARNING BUZZER Sounds When Head Light Switch is on and Ignition Switch is in "Off" Position

HEADLIGHTS Halogen

HORN, AIR Single, Located Under Cab

HORN, ELECTRIC Disc Style

RADIO AM/FM/WB/Clock/Bluetooth/USB Input/Auxiliary Input

SPEAKER, AUXILIARY, CB RADIO with Jack for CB; Mounted Left Side Above Driver's Door

SPEAKERS (2) 6.5" Dual Cone Mounted in Doors

STARTING MOTOR {Mitsubishi Electric Automotive America 105P} 12-Volt, with Soft-Start

TRAILER CONNECTION SOCKET {Phillips} 7-Way, Mounted at Rear of Frame, Wired for Turn Signals Combined with Stop, Compatible with Trailers with Combined Stop, Tail, Turn Lamps

TURN SIGNAL SWITCH Self-Canceling

FRONT END

FRONT END Tilting, Composite

BUG SCREEN Mounted Behind Grille

GRILLE Black Vertical Accent Bars, with Black Mesh

LOGOS EXTERIOR Model Badges, Shipped Loose, Located in Cab

LOGOS EXTERIOR, ENGINE Badge Shipped Loose

SPEEDOMETER, TOOLS, MISC

COMMUNICATIONS MODULE Telematics Device with Over the Air Programming; Includes Five Year Data Plan and International 360

PAINT SCHEMATIC, PT-1 Single Color, Design 100

PAINT TYPE Basé Coat/Clear Coat, 1-2 Tone

FUEL TANKS

FUEL TANK Top Draw, Non-Polished Aluminum, 26" Dia, 80 US Gal (303L), Mounted Left Side, Under Cab

DEF TANK 10.8 US Gal (41L) Capacity, Frame Mounted Outside Left Rail, Under Cab

FUEL HEATER {Cummins} Plumbing for Thermal Recirculation Valve (TRV) Mounted to Cummins X15 Engines, Thermostatically Controlled

FUEL/WATER SEPARATOR {Racor 6600} Pre-Filter and Filter Base, Includes Water-in-Fuel Sensor

Description**WHEELS, TIRES - FRONT**

WHEELS, FRONT {Accuride 29300} DISC; 22.5x9.00 Rims, Powder Coat Steel, 5-Hand Hole, 10-Stud, 285.75mm BC, Hub-Piloted, Flanged Nut, with Steel Hubs

(2) TIRE, FRONT 315/80R22.5 Load Range L HAU 3 WT (CONTINENTAL), 480 rev/mile, 68 MPH, All-Position

WHEELS, TIRES - REAR

WHEELS, REAR {Accuride 29169} DUAL DISC; 22.5x8.25 Rims, Powder Coat Steel, 5-Hand Hole, 10-Stud, 285.75mm BC, Hub-Piloted, Flanged Nut, with .472" Thick Increased Capacity Disc and Steel Hubs

(8) TIRE, REAR 11R22.5 Load Range G HDR2+ (CONTINENTAL), 491 rev/mile, 75 MPH, Drive

Services Section:**WARRANTY**

WARRANTY Standard for HX520, HX620, Effective with Vehicles Built January 1, 2021 or Later, CTS-2015B

CARB COMPANION PLAN {Navistar} for CARB A26 and X15 Engines

Diamond Bilt water tank installation



FROM
Anthony Bilicich
Diamond Steel Co.
971 N. George Washington Blvd.
Yuba City, CA 95993
anthony@diamondbilt.com
diamondbilt.com
PHONE
530-674-8577

FOR
Riverview International Trucks
TO
Jason Farrell
EMAIL
jasonf@riverview-trucks.com
ADDRESS
2445 Evergreen Ave
West Sacramento
California 95691
United States
PHONE
916-869-0989

QUOTE NUMBER
186
DATE
September 22, 2023
VALID UNTIL
October 22, 2023

3800 Gallon Water Truck Body Installed on International HX (Reference DSC Quote #8329)

3800 Gallon Water Truck Body

- 3,800 Gallon Elliptical Tank
- Approximate Dimensions: 95" x 63" x 184"
- 7 Ga. Mild Steel Construction
- 3 Transverse Baffles with 19" Alternating Lined Crawl Holes
- Stainless Steel Fenders
- Full Length, 7 Ga. Steel, U-Formed Tank Sills (see attached drawing)
- Full Length, 7 Ga. Steel, Double Bottom Bearing Plates
- Four (4) Spring Loaded, Telescopic Tank Mounts
- Two (2) Semi-Rigid Tank Mounts
- LED D.O.T. Lighting
- Front and Rear Sight Gauges with Bottom Shutoff Valve
- Painted White to Match Cab (Other color options available upon request)



[Tank and Subframe Detail - HH38ET](#)

[Weight Distribution - H38ET](#)

YMANHOLE 20" Latching Manhole

Installed at center of tank, complete with gasket to prevent spillage. Vent pipe to be installed with Manhole.



YCONSOLE STANDARD

Pump and Spray Control Console

Control Console mounted between driver and passenger seat

Switches to Control:

- System Power
- Left Front
- Right Front
- Left Side
- Left Rear
- Right Rear
- Spray/Load
- PTO On/Off
- Beacon On/Off
- LED D.O.T. Lighting
- Front and Rear Sight Gauges with Bottom Shutoff Valve
- Painted White to Match Cab (Other color options available upon request)

Console to Include Water Pressure Gauge and Regulator



PTO Driveline Pumping System

Berkeley B3ZRM connected to transmission PTO by driveline. Water pump not to exceed 2500 RPM.

System Components

- Berkeley 4 x 3, 850 GPM, 80 PSI Static (Reference Curve No. 5021)
- Collapsible Driveline
- PTO sized to truck transmission

YHYDRANT FILL

2 1/2" Anti-Siphon Hydrant Fill

Connection at rear passenger side of tank to have 2 1/2" male camlock.

Tank fill is through 8" diameter collar with counter-weighting swing check anti-spill plate.



YSUCTION

Draft Loading Valving and Hose

Water Pump to be plumbed with draft capable valving. Option includes up to 30' of 3" draft hose.

Water Pump to be installed with:

- One (1) 4" Butterfly Valve for Tank Shutoff
- One (1) 3" Butterfly Valve for Draft Loading
- One (1) 3" Male Camlock and Cap for Connecting Draft Hose



YFRONT HEADER

Front Spray Bar

Front Spray Bar installed on Water Truck Body with 2 sprays. The spray bar is to be fed via pipe plumbed over the steer axle. No hose is used on this system. Flexible groove couplings are used to allow for chassis twist and flex.

Diamond Bilt Fan Sprays are built with stainless steel seats to prevent rusting and leaks. Spray Heads are stainless steel with adjustable clamp to change spray pattern.

Options for water cannons and pressure outlets available.



YSIDE HEADER

Side Spray

Side Spray installed on Water Truck body between cab and drive axles. Spray to be connected by flexible groove coupling with manually adjustable duckbill nozzle. Diamond Bilt valves are built with stainless steel seats to increase longevity of valves and prevent leaks.

Electrically actuated sprays available as an upgrade.



YREAR HEADER

2 Spray Rear Header

Rear Spray Bar built with two (2) Diamond Bilt Fan Sprays. Diamond Bilt Fan Sprays are built with stainless steel seats to prevent rusting and leaks. Spray Heads are stainless steel with adjustable clamp to change spray pattern.

Additional sprays and configurations available.



YBEACON 4"

4" Amber Beacon

Ecco 6410A installed at front or rear of water tank. All wiring to be routed through stainless steel conduit with weatherpack plug for easy maintenance. Branch guard and other beacon models available upon request.



YCHANNEL BUMPER

8" x 96" Channel Bumper

Bumper to include at least
Two (2) Stop/Tail/Turn Lights
Two (2) Reverse Lights
One (1) License Plate Light

Options for tow hook cutouts and more lights available.



YHITCH

Hitch and Tow Package

Air cushioned pintle hitch to be installed at rear of truck chassis. Hitch plate to be made of 5/8" plate reinforced against chassis frame. Tow package to incorporate glad hands, d-rings, and trailer plug.



Fire Extinguisher

YPAINT

Water Truck Body Painted

Standard Color: White
Other colors available upon request.

Build Summary

- 3,800 Gallon Mild Steel Water Truck Body
- Stainless Steel Fenders & DOT Lighting
- 20" Latching Manhole
- Control Console
- Driveline Driven Berkeley Water Pump
- 2 Front Sprays
- 1 Driver's Side Spray
- 2 Rear Sprays
- Hydrant Fill
- Suction Loading Plumbing & Spray Load Valve
- Beacon Light
- 8' Bumper
- Hitch and Tow Package
- Cab Mounted Fire Extinguisher
- White Paint

⊛ These are options available to add to body build and are not included in base price of bid.



If awarded and E.I.O. would like to add any of these, the pricing would need to be added.

Jason Farrell
9/25/23

FROM
Anthony Bilicich
Diamond Steel Co.
 971 N. George Washington Blvd.
 Yuba City, CA 95993
 anthony@diamondbilt.com
 diamondbilt.com
 PHONE
 530-674-8577

FOR
Riverview International Trucks
 TO
 Jason Farrell
 EMAIL
 jasonf@riverview-trucks.com
 ADDRESS
 2445 Evergreen Ave
 West Sacramento
 California 95691
 United States
 PHONE
 916-869-0989

QUOTE NUMBER
 187
 DATE
 September 22, 2023
 VALID UNTIL
 October 22, 2023

Options and Upgrades (Reference DSC Quote #8330)

YSUCT HOSE TUBE
Draft Hose Storage Tubes

924.39
 x 1
 924.39

Two (2) 10' Draft Hose Storage Tubes to be installed through fender. Draft hose to be contained completely within storage tube and kept in place with locking pin.

Note: Length of Tube can be extended for an additional fee.



YPRIMING RES
Priming Reservoir for Draft Assist

744.84
 x 1
 744.84

A storage compartment is built into the water truck body to retain water in the tank to assist with drafting. This storage compartment is plumbed into the suction side of the water pump to allow the user to fill the draft hose so that they can draft with a non self-priming pump.



Ladder

796.57
 x 1
 796.57

12" wide, stainless steel, ladder installed on rear head of water truck body.

YLOW WATER LEVEL
Low Water Level Indicator

296.64
x 1
296.64

Grounding switch installed to turn on light in cab at customer determined water level. Light indicates that the truck operator should turn off the water pump.



YANODE
Sacrificial Anodes - 1 Per Tank Compartment

97.85
x 4
391.40

One (1) removeable 5 lb magnesium anode installed in each tank compartment to help prevent corrosion of mild steel.



YPRESSURE OUTLET
Ball Valve Pressure Outlet

359.46
x 1
359.46

2 1/2" ball valve with NPT to NH nipple to allow for 2 1/2" fire hose connection. Includes 2 1/2" NH to 1 1/2" NH reducing nipple and cap to allow for 1 1/2" fire hose.

Common Locations: Front Spray Bar, Rear Spray Bar, Driver's Side



YRIM REEL
Manual Rewind Hose Reel

2,544.86
x 1
2,544.86

Manual Rewind Hose Reel installed on right side of frame behind cab and in front of drive axles. Reel to hold 1 1/2" x 50' hose.

Alternative locations available upon request.



YELEC REEL
Electric Rewind Hose Reel

3,961.59
x 1
3,961.59

Electric Rewind Hose Reel installed on right side of frame behind cab and in front of drive axles. Choice of 1" or 1 1/2" hose.

Alternative locations available upon request.



YWORK LIGHT
1350 Lumens Work Light

247.94
x 1
247.94

All worklights installed with stainless steel conduit for routing wires.

Common Locations: Rear Head, Driver's Side Toward Suction Plumbing



YACT SPRAY
Upgrade Side Spray to Actuated Spray

817.86
x 1
817.86

Diamond Bilt Actuated Side Sprays are built with 10°, 20°, or 72° Duckbill Nozzles. Valve is turned on/off and moves up/down or left/right via cab control. Nozzle to swivel 90° from cab actuation.



YLOAD SENSING PUMPING PACKAGE
Upgrade to Load Sensing Hydraulics and Water Pumping Package

9,869.32
x 1
9,869.32

System Performance

- Full Water Pump Performance at 850 Truck Engine RPM
- Water Pump Performance Unaffected by Change in Truck Engine RPM
- Water Pump Speed Controlled by 0-10 Dial in Control Console
- Water Pump Capable of 850 GPM and 80 PSI Static

System Components

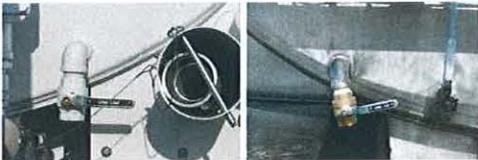
- Berkeley 4 x 3, 850 GPM, 80 PSI Static (Reference Curve No. 5021)
- PTO Properly Sized for Transmission and Installed
- Load Sensing Hydraulic Pump
- 40 Gallon Internally Cooled Hydraulic Reservoir
- 1" Hydraulic Oil Sight Gauge
- Hydraulic Flow Control Valve
- Hydraulic Motor
- Hydraulic Filter



YLEGAL LOAD
Legal Load Valve

639.09

Valve installed on rear head so that when open, the tank will not fill beyond road legal weight.



Subtotal 21,593.96
Total including tax **\$21,593.96**



**IMPERIAL
INDUSTRIES INC**

(800) 558-2945 / www.imperialind.com
Mailing Address: P.O. Box 1685, Wausau, WI 54402
Shipping Address: 505 Industrial Park Ave., Rothschild, WI 54474

Attachment B

Sales Person: Stieber, Jim
P: (715) 359-0200 Extension: 418 F: N/A
EMAIL: jim@imperialind.com

QUOTE: 527990-04

Customer: 12762
ELDORADO IRRIGATION DISTRICT*S

ADDRESS:
2890 MOSQUITO ROAD
PLACERVILLE, CA 95667
UNITED STATES

CONTACT:
GREG
M: (530) 642-4047
groyal@eid.org

Ship To:
ELDORADO IRRIGATION DISTRICT*S

ADDRESS:
2890 MOSQUITO ROAD
PLACERVILLE, CA 95667
UNITED STATES

CONTACT:
GREG
M: (530) 642-4047
groyal@eid.org

Job #	Order #	Quote #	Customer PO#	Project#
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116290 527990-04

Requested Date	Site Location
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10/25/2023 PARSONS KANSAS

Reference: TMV4000 Aluminum NVE4310 Freightliner
QUOTATION REMAINS VALID FOR 15 DAYS FROM QUOTE DATE UNLESS OTHERWISE NOTED.

Accessories						
Item	Part Number	Quantity	UOM	Description	Price Each	Price Total
10	805028.F	1	EA	TMV4000 (ALUM) COMPLETE ASSEMBLY WITH 4310 ON A FREIGHTLINER <i>Aluminum 5454 (4000-Gallon) Vacuum Tank</i> <i>76" Diameter Tank</i> <i>1/4" Thick Aluminum 5454 Barrel</i> <i>5/16" Thick Aluminum 5454 ASME Dished Heads</i> <i>Bottom 1/3rd of Tank Double Plated</i> <i>Full Flanged and Dished Heads for Baffles</i> <i>NVE Challenger 4310 Blower (920 CFM)</i> <i>20" Top Manway</i> <i>20" Manway on Bank Tank Head</i> <i>(2) 4" Vacuum Inlet w/ Lever Valve</i> <i>Passenger Side Intake Stand Pipe</i> <i>One (1) 6" Discharge w/ Piston Valve w/ Handle</i> <i>Three (3) 5" Sight Glasses on Rear Tank Head</i> <i>Full-Length Aluminum Hose Trays</i> <i>Two (2) Hose Hooks w/ Hose Protectors</i> <i>One (1) Aluminum 24" x 24" x 36" Toolbox</i> <i>DOT LED Light Package</i> <i>Two (2) Rear LED Work Lights</i> <i>Rear Bumper (Adjustable)</i>		
20	121727.7	1	EA	PTO,CHELSEA (3000RDS) (161%) (4307 & 4310)		
30	809001.2	1	EA	PTO WIRE KIT FOR FREIGHTLINER		
40	PROGRAMMIN G	1	EA	PROGRAMMING		
50	809168.TM	1	EA	DOT KIT FOR SEPTIC TRUCK MOUNT		



**IMPERIAL
INDUSTRIES INC**

(800) 558-2945 / www.imperialind.com
 Mailing Address: P.O. Box 1685, Wausau, WI 54402
 Shipping Address: 505 Industrial Park Ave., Rothschild, WI 54474

Sales Person: Stieber, Jim
P: (715) 359-0200 Extension: 418 F: N/A
EMAIL: jim@imperialind.com

QUOTE: 527990-04

Accessories						
Item	Part Number	Quantity	UOM	Description	Price Each	Price Total
60	TRUCK	1	EA	TRUCK Freightliner M2 6x4 Cummins L9 350 HP (58000 GVWR) Color White Interior Color Opal Gray Wheelbase 228" GVWR 58,000 Tire Size 11R22.5 / 385 Steer Aluminum Wheels Heated Mirrors Window Visor Chrome Bumper Cruise Control Air Conditioning Full Lockers Engine Cummins L9 350 HP Engine Brake Transmission Model Allison 3000 RDS FA Weight 18,000 RA Weight 40,000 Ratio 5.29 Suspension Air Left Fuel Tank 50 Gallons		

Quote Sub Total: \$205,051.19
Quote Sub Total Non-FET: \$44,121.77
Fet Tax: \$19,311.53
Sales Tax: \$0.00
Estimated Total Freight: \$0.00
Quote Total: \$224,362.72

Note:

- For painted tanks - Color other than white and white to match - **Extra**
- Relocating existing equipment
- Frame alterations
- Freight charges will be confirmed at time of completion if no value is included in original quote. Any and all freight charges are the end user's responsibility.
- As an industry standard, combination units with both water and waste compartments have weight distribution calculations based upon the industry standard of 100% full capacity on waste and 10% - 20% capacity on water. These calculations are used to assist in the proper selection of the GVW necessary and for selecting the proper chassis. Anyone that is not abiding by these industry guidelines, could possibly incur over weight issues and or ground clearance issues. Imperial Industries, Inc. will not be held responsible if proper guidelines that were established by the industry, are not upheld by the owner/customer.

- State and Local Taxes will apply if applicable - Current Registered States:
 AL, AR, AZ, CA, CO, CT, FL, GA, IA, IL, IN, KS, KY, MA, MI, MN, MO, MS, NC, ND, NE, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY

SALES CONTRACT

By signing below, I agree to the specifications provided within this Sales Order. I have thoroughly reviewed the quotation and hereby authorize Imperial Industries, Inc. to enter this as an order and proceed.
 Approval Drawings will follow this acceptance of an order. Upon signing the Approval Drawings, the manufacturing of your order will take place.
(All chassis are subject to chassis surcharges at any time per chassis manufacture increase to Imperial Industries, Inc. & All material and components are subject to a surcharge at anytime.)



**IMPERIAL
INDUSTRIES INC**

(800) 558-2945 / www.imperialind.com

Mailing Address: P.O. Box 1685, Wausau, WI 54402

Shipping Address: 505 Industrial Park Ave., Rothschild, WI 54474

Sales Person: Stieber, Jim

P: (715) 359-0200 Extension: 418 F: N/A

EMAIL: jim@imperialind.com

QUOTE: 527990-04

TERMS

All deposits are non-refundable

10% With Invoice, 90% Prior To Shipping

F.O.B. Wausau, WI 54402-1685

A handwritten signature in black ink that reads "Jim Stieber".

**CUSTOMER AUTHORIZED REPRESENTATIVE
DATE SIGNED:**

**IMPERIAL INDUSTRIES AUTHORIZED REPRESENTATIVE
QUOTE DATE: 9/28/2023**

2023

CAPITAL IMPROVEMENT PLAN Program:

General District

Project Number: Planned
Project Name: Vehicle Replacement Program
Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Royal **Board Approval:** 11/14/22

Project Description:

The following vehicle replacements are planned for 2023 - 2027.

2023: (3) 1/2 ton pickups, (1) 10 yard dump truck, (1) transfer truck, (2) 1-1/2 ton valve turn trucks, (1) 1 ton 4x4 service truck, (1) 3/4 ton 4x4 pickup truck, (1) JD50 excavator, (1) 3 axle equipment trailer. **Note:** (5) F150 1/2 ton trucks were ordered in 2022 but will not show up until 2023.

2024: (3) 1/2 ton pickups, (1) suv, (1) 3/4 ton utility 2x4 truck, (3) 1 ton utility truck 4x4, (1) 1 ton crew cab 4x4 pickup truck, (1) 1-1/2 ton utility 4x4 truck, (1) 52,000lb septic pumper truck, (1) 4 thousand gallon water truck. **Note:** (6) dump trucks and (1) 4 thousand gallon water truck were ordered in 2022 but will not show up until 2024.

2025: (3) 1/2 ton pickups, (4) suv's, (1) 3/4 ton pickup 4x4, (2) 1 ton utility 4x4 trucks, (2) 1 ton extended cab 4x4 trucks, (1) 1-1/2 ton utility 4x4 truck, (1) 1-1/2 ton contractor body 4x4 truck, (1) 1-1/2 ton crew cab 4x4 crew truck with power unit, (1) 21-24 ft patrol boat, (1) 410 backhoe, (1) fx40 vacuum excavation trailer.

2026: (12) 1/2 ton pickup's, (2) 4 door sedan's, (3) suv's, (5) 1 ton utility 4x4, (1) 3/4 ton utility 4x2 truck, (2) 1 ton flatbed 4x4 truck's, (1) jeep 4x4, (1) 410 backhoe,

2027: (3) 1/2 ton pickup's, (1) 1 ton utility 4x2 truck, (1) 1-1/2 ton flatbed dump 4x4, (1) 1-1/2 ton crew cab 4x4 crew truck with power unit, (1) sewer service foam truck, (1) sewer inspection camera van, (1) 410 backhoe

Basis for Priority:

Enhances District assets through life-cycle replacement of existing vehicles.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	\$ -
Spent to Date:	\$ -	2023 - 2027 Planned Expenditures:	
Cash flow through end of year:	\$ -	Total Project Estimate:	\$ -
Project Balance	\$ -	Additional Funding Required	\$ -

Description of Work	Estimated Annual Expenditures					Total
	2023	2024	2025	2026	2027	
Vehicles/Equipment	\$ 1,486,000	\$ 2,107,000	\$ 1,407,000	\$ 1,521,000	\$ 1,438,000	\$ 7,959,000
						\$ -
TOTAL	\$ 1,486,000	\$ 2,107,000	\$ 1,407,000	\$ 1,521,000	\$ 1,438,000	\$ 7,959,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	60%		\$891,600
Wastewater Rates	40%		\$594,400
			\$0
Total	100%		\$1,486,000

Funding Comments:

FLEET VEHICLE REPLACEMENT

El Dorado Irrigation District
October 23, 2023

Summary of Issue

- Replace one International HX620 (3800-gallon water truck)
- Replace one Freightliner TMV4000 (vacuum pumper truck)

Background

- The district uses two essential vacuum pumper trucks for sanitary sewer collection system maintenance.
- New vehicles needed due to stricter emissions standards.
- Old vehicles in good condition and are likely to bring a decent return when auctioned out-of-state.

-

Procurement Process

- The District issued a Request for Bid (RFB); we received only one bid for a water truck from Riverview International, but no pumper truck
- Staff found a suitable, already built vacuum pumper truck and reserved it from Imperial Industries Inc. in Wisconsin

New Water Truck



New Vacuum Pumper Truck



Cost Breakdown

TRUCKS TO BE PURCHASED	Estimated Cost
International HX620 Water Truck	\$257,923
Contingency for possible manufacture increases during build process (8%)	\$20,634
Freightliner TMV4000 Vacuum Pumper Truck	\$224,363
Delivery fee	\$4,800
Total requested authorization for purchase of both trucks	\$507,720

Board Options

- **Option 1:** Consider awarding contracts to Riverview International in the not-to-exceed amount of \$257,923 and an additional 8% contingency of \$23,634 for the purchase of one replacement water truck and Imperial Industries Inc. in the not-to-exceed amount of \$229,163 for the purchase of one replacement vacuum pumper truck and authorize a total funding request of \$507,720 for the 2024 Vehicle Replacement Program, Project No.24003
- **Option 2:** Take other action as directed by the Board
- **Option 3:** Take no action

Recommendation

- **Option 1**

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider awarding contract change orders to Zanjero, Inc. in the not-to-exceed amount of \$76,044 for hydrologic modeling services and AECOM in the not-to-exceed amount of \$93,265 for environmental services and authorize additional funding of \$25,000 for capitalized labor for a total funding request of \$194,309 for the Permit 21112 Change in Point of Diversion, Project No. 16003.

PREVIOUS BOARD ACTION

August 10, 2020 – Board awarded a contract to Zanjero in the not-to-exceed amount of \$395,890 to perform hydrologic modeling and authorized additional funding of \$50,000 for capitalized labor and \$25,000 for additional special water rights counsel services for a total funding request of \$470,890 for Permit 21112 Change in Point of Diversion, Project No. 16003.

October 26, 2020 – Board awarded a contract to AECOM in the not-to-exceed amount of \$364,275 to prepare an Environmental Impact Report and authorize additional funding of \$75,000 for capitalized labor for a total funding request of \$439,275 for Permit 21112 Change in Point of Diversion, Project No. 16003.

February 28, 2022 – Board awarded a contract change order to Zanjero, Inc. in the not-to-exceed amount of \$124,840 for hydrologic modeling services and authorized additional funding of \$7,925 for on-call engineering services and \$20,000 for capitalized labor for a total funding request of \$152,765 for the Permit 21112 Change in Point of Diversion, Project No. 16003.

November 14, 2022 – Board adopted the 2023-2027 Capital Improvement Plan (CIP), subject to available funding.

August 28, 2023 – Board authorized additional funding in the amount of \$16,000 for a hydrologic modeling services contract amendment and \$30,000 for capitalized labor for a total funding request of \$46,000 for the Permit 21112 Change in Point of Diversion Project, Project No. 16003.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 5010 Water Supply Management
BP 3060 Contracts and Procurement

SUMMARY OF ISSUE

The District is pursuing a change petition with the State Water Resources Control Board (SWRCB) to add a point of diversion and place of storage to Water Right Permit 21112 to meet the District's long-term water supply needs. Continued advancement of this project necessitates a contract change order to Zanjero, Inc. for additional hydrologic modeling services and a contract change order to AECOM for additional environmental review services.

BACKGROUND/DISCUSSION

This water rights project seeks to add a new point of diversion to the District's existing Water Right Permit 21112 (Permit 21112), which provides the right to consumptively use up to 17,000 acre-feet annually from the supplies originating in the District's Project 184 reservoirs (i.e.,

Caples, Silver, and Aloha Lakes) and direct diversions from the South Fork American River. Although these District supplies originate in the uppermost portions of the South Fork American River watershed, Permit 21112 currently only allows the District to directly divert or re-divert these water supplies for consumptive use at Folsom Reservoir.

The proposed additional point of diversion is the District's existing El Dorado Diversion Dam near Kyburz, where the District's pre-1914 consumptive rights and hydroelectric rights are currently exercised. The Kyburz diversion would utilize existing conveyance facilities, and Permit 21112 water could immediately be diverted at this location for consumptive use upon approval of the change petition. In addition, the District proposes to add a point of re-diversion and an authorized place of storage at Jenkinson Lake to allow for storage of Permit 21112 water that was initially diverted at Kyburz and then conveyed through the Hazel Creek Tunnel and then into Jenkinson Lake. By taking Permit 21112 water supply at Kyburz, water can be treated and distributed largely via gravity flow to meet demands throughout the District's service area. In addition, amending the permit to allow storage of Permit 21112 in Jenkinson Lake would help address the imbalance of low water availability and high water demand in the summer months. Also, adding a new point of diversion under Permit 21112 would increase water supply reliability and drought resilience by maximizing the flexibility to meet demands in various locations throughout the District with multiple points of diversion.

Project Status and Update

Staff has continued to make progress on this project since the last status update to the Board in February 2022. Efforts have focused on developing the hydrologic modeling for the project, conducting extensive stakeholder outreach and involvement, and advancing the environmental review. Staff will share modeling results during the Board meeting, showing the proposed project's anticipated water supply benefits.

Hydrologic Modeling

Hydrologic modeling is an essential tool for this type of water rights project and is needed to support the SWRCB change petition and California Environmental Quality Act (CEQA) environmental review processes. Zanjero, Inc. has developed a HEC Res-Sim hydrologic modeling tool to conduct the analysis of potential project effects upstream of Folsom Reservoir. This extensive effort involved developing an operational model of the District's Project No. 184 system that could be joined with an existing model of SMUD's Upper American River Project (UARP) to create a hydrologic model of the entire South Fork American River watershed. The District is using this hydrologic model for the current project and also plans to use it for analyzing future projects and District operations.

Zanjero, Inc. is also performing separate hydrologic modeling to evaluate potential project impacts on Folsom Reservoir and resources downstream of the reservoir, including flow management on the Lower American and Sacramento Rivers. This modeling effort requires using a separate modeling tool, CalSim, to evaluate potential impacts. In addition, Zanjero's sub-consultant, Stantec, is evaluating potential temperature impacts on the Folsom Reservoir cold water pool and water temperature management.

The model development was a multi-step process that involved compiling and updating hydrologic information, developing a baseline model representing current operational conditions, and developing project modeling scenarios for the new proposed point of diversion and place of storage. Model development is an iterative process that involves review and input by staff, review and input from stakeholders, and then any necessary revisions made by Zanjero, Inc.

The modeling effort has required extensive coordination meetings to ensure the model accurately depicts system operations and extensive outreach to help engage stakeholders and incorporate their feedback in the development of the model.

The scope and required effort for the project's hydrologic modeling has expanded in response to project refinements, additional modeling runs, and stakeholder feedback regarding the modeling approach.

Stakeholder Outreach

Staff has conducted extensive outreach with stakeholders to share information on the proposed change petition and involve interested stakeholders in developing the project's hydrologic modeling. Staff convened multiple technical meetings with SMUD to ensure the model accurately depicts SMUD's operations of the UARP. Staff has also held technical meetings with recreation stakeholders, which include representatives from American Whitewater, California Sportfishing Protection Alliance, Friends of the River, Planning and Conservation League, professional river guides, and private citizens interested in whitewater recreation on the South Fork American River. Staff has also met with other agencies and interested stakeholders to review the project, including SWRCB staff, the California Department of Fish and Wildlife, the U.S. Bureau of Reclamation, representatives from the Sacramento Water Forum, and El Dorado Water Agency. Staff plans to continue outreach with stakeholders as the project modeling and environmental analysis progress.

The stakeholder outreach process resulted in additional modeling refinement, and modeling runs beyond the original scope of work, which is reflected in the proposed change order.

California Environmental Quality Act (CEQA)

In October 2020, the District awarded a contract to AECOM to prepare an environmental impact report (EIR) for the project to comply with the requirements of CEQA. The environmental review process is advancing in conjunction with the hydrologic modeling. Preparation of the EIR is highly dependent on output from the hydrologic modeling because the modeling provides the data that directly informs the analysis of potential effects in the EIR for several resource categories (hydrology, biology, recreation, hydropower, etc.). To help facilitate an efficient process for incorporating the hydrologic modeling output into the EIR, staff has convened several technical meetings with the Zanjero and AECOM teams to discuss what model outputs will be needed to perform the effects analysis for the various resource categories. Staff is also working with AECOM to further refine the EIR project description, define significance thresholds, describe existing conditions, and advance sections of the EIR that do not rely on modeling output for the effects analysis.

Staff forecast the Draft EIR release for public review in early 2024. Staff plans to file the change petition with the SWRCB at the same time as the release of the Draft EIR. Ongoing stakeholder outreach efforts, coordination with regulatory and responsible agencies, and development of alternatives and/or mitigation measures could affect the release date of the Draft EIR.

The expanded scope of hydrologic modeling and the project refinements will require additional time and resources by the AECOM team to develop the EIR, which is reflected in the proposed change order.

Hydrologic Modeling Contract Change Order

Several factors caused the scope of the project's hydrologic modeling and associated technical coordination to expand. The project has required many more coordination meetings between

Zanjero and staff, stakeholders, and consultants beyond what was initially anticipated to develop modeling assumptions and ensure that the model accurately depicts system operations. The requested change order provides additional funding to continue those important technical coordination meetings. Further, stakeholder outreach resulted in refined modeling approaches and additional modeling runs. Specifically, the original scope assumed that Zanjero would be able to utilize the existing UARP modeling assumptions included in the HEC Res-Sim model. However, after several technical coordination meetings with SMUD to ensure those modeling assumptions reflected existing UARP operations, SMUD requested the development of a revised modeling approach. The new modeling approach requires a "rinse and repeat" process whereby modeled hydrology is then utilized to calibrate UARP operations. This new approach closely tracks UARP's actual historical operations but also doubles the required effort for all of the HEC Res-Sim model runs. This additional modeling is reflected in the requested change order.

The necessary modeling has also increased due to a refined approach to modeling future water demands, consistent with the District's 2020 Urban Water Management Plan. To accurately model these future water demands, the refined modeling approach includes a current baseline and current project based on recent water demands and a future baseline and future project phase based on forecasted water demands for 2045. This refined approach results in additional modeling runs to compare the project and alternatives to both the current and future baseline scenarios. Further, additional modeling is necessary to reflect potential "interim" project operations with existing infrastructure, as well as future project operations with infrastructure improvements to allow conveyance of the full permitted rate of diversion under Permit 21112. Thus, the modeling now includes two operational phases (current infrastructure and improved infrastructure), resulting in additional modeling runs and post-processing.

Finally, additional effort is required to refine the CalSim 3 modeling approach, to calibrate the hydrology generated from the HEC Res-Sim modeling with the hydrology assumed in CalSim 3, and to coordinate with the sub-consultant Stantec on developing the temperature modeling.

Because these efforts exceed the original scope of the hydrologic modeling contract, staff requests approval of a contract change order to Zanjero in the amount of \$76,044 to continue advancing the project.

Environmental Review Contract Change Order

The project has required additional effort during the development of the draft EIR. As described in more detail above, a review of hydrologic modeling output highlighted elements of the project that needed to be refined. One of these elements was adding a future baseline and future project component to be able to disclose what potential environmental effects are associated with the project and what potential effects are associated with increased future demands that would occur with or without the project. This approach of utilizing both a current and future baseline expands the EIR's scope of work by requiring two separate analyses for numerous resource categories. Also, describing two operational phases of the project (current infrastructure vs. improved infrastructure) expands the scope of the EIR's analysis to disclose the potential environmental effects associated with the different operations. In addition, additional time and resources beyond the original estimates are needed for AECOM staff to review and analyze the environmental effects of the voluminous modeling output and to coordinate with Zanjero and District staff on the technical analysis.

Because these efforts exceed the original scope of the environmental review contract, staff requests approval of a contract change order to AECOM in the amount of \$93,265 to continue advancing the project.

FUNDING

The table below reflects funding requests for the project. The funding source for the project is 100% water facility capacity charges.

Current funding request

Zanjero contract change order	\$76,044
AECOM contract change order	\$93,265
Capitalized labor	\$25,000
Total funding request	\$194,309

BOARD OPTIONS

Option 1: Award contract change orders to Zanjero, Inc. in the not-to-exceed amount of \$76,044 for hydrologic modeling services and AECOM in the not-to-exceed amount of \$93,265 for environmental services and authorize additional funding of \$25,000 for capitalized labor for a total funding request of \$194,309 for the Permit 21112 Change in Point of Diversion, Project No. 16003.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: Zanjero Contract Change Order

Attachment B: AECOM Contract Change Order



Elizabeth Leeper
Senior Deputy General Counsel



Brian Deason
Environmental Resources Supervisor



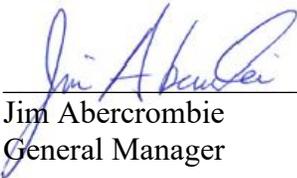
Brian Mueller
Engineering Director



Dan Corcoran
Operations Director



Brian Poulsen
General Counsel



Jim Abercrombie
General Manager

MEMORANDUM

To: Brian Deason / El Dorado Irrigation District

From: Michael J. Preszler / Zanjero

Date: 6 October 2023

RE: Professional Services Proposal to provide additional services
Modification of Water Right Permit 21112: Strategic
Support and Technical Assistance – Change Order No. 4

Zanjero is currently supporting the El Dorado Irrigation District (the "District"), where we are providing strategic support and technical assistance consulting services in support of the modification of Water Right Permit 21112, as part of Project No. 16003.01, originally initiated on August 10, 2020.

The original contractual agreement amounted to \$395,890, signifying our initial commitment to the project. Subsequently, Change Order No. 1 was executed, reflecting an additional expenditure of \$124,840, and Change Order No. 2 necessitated an adjustment of \$174,100. These changes collectively established a revised contractual amount of \$694,830. Change Order No. 3 was a no-cost change order to sub-contract with Stantec for water temperature modeling support.

We are now seeking the implementation of Change Order No. 4, which entails an additional allocation of \$76,044. This proposed change order is to further accommodate evolving project requirements and further support the District's objectives. Upon approval, the cumulative contract value will be adjusted to \$770,874.

The purpose of this contract amendment request is to facilitate the provision of supplementary services, which are essential to the successful execution of the project. The cost breakdown for these additional services is summarized as follows:



Task 1.0 Program Kick-Off, Oversight and Coordination

Task 1.1 Project Management and Coordinate Task Activities	\$2,000
Task 1.3 Coordination Meetings with the District	\$13,080
Task 1.4 Agency and other Stakeholder Meetings	\$13,080

Task 4.0 Hydrologic Modeling

Task 4.1.1 ResSim Modeling of Proposed Project and Alternatives	\$22,640
Task 4.3 Calsim Modeling of Proposed Project and Alternatives	\$17,120
Water Temperature Modeling – Sub-consultant	\$3,724
Task 4.3.1 LAR Water Temperature Modeling	\$4,400

Total Change Order No. 4 Request **\$76,044**

We genuinely value working with the District and look forward to continuing our support for this significant endeavor. We are committed to ensuring the timely completion of the work in alignment with the project schedule once we receive the written authorization to proceed.

I. WORK PROGRAM AND LEVEL OF EFFORT

Task 1.0 Program Kick-Off, Oversight and Coordination

1.1 Project Management and Coordinate Task Activities

Throughout the project's duration, Zanjero will assume the critical responsibility of ongoing management and oversight of project activities. This necessitates a coordinated approach, entailing close collaboration with both the District and the project team.

The scope of activities encompassed within this task is anticipated to encompass; schedule development and review, progress monitoring, technical collaboration, personnel/staff planning, budgetary oversight, and ongoing project liaison.

This comprehensive approach to project management and oversight underscores our commitment to the successful execution of the project, ensuring that it remains well-organized, on track, and aligned with the overarching project goals.

1.3 Coordination Meetings with the District

Throughout the course of the project assignment, Zanjero will undertake the preparation for and participation in a series of coordination meetings with the District. Specifically, we anticipate the scheduling of up to eight (8) two-hour sessions plus meeting preparation time. These meetings will serve as a platform for in-depth discussions pertaining to a range of topics,

which may encompass, but are not restricted to, the following areas: implementation of the strategic approach, interagency liaison, key environmental issues, project definition, hydrologic modeling, water availability, and coordination with other ongoing activities.

These meetings will be scheduled on an ad hoc basis, organized as specific needs arise. The intention is to facilitate comprehensive and informed discussions, ensuring alignment with project goals and the exchange of essential insights to support the project’s successful progression.

1.4 Agency and other Stakeholder Meetings

In the course of our project support, Zanjero will prepare for and participate in a series of up to five (5) two-hour meetings with diverse agencies, which may encompass entities such as the SWRCB, Cal Fish & Wildlife, Sacramento Water Forum, Reclamation, as well as other pertinent agencies or stakeholders. These engagements will serve as a platform for in-depth discussions regarding the project that could include issues and concerns, modeling, and specific project details. These meetings will be organized to facilitate effective communication and collaboration among the involved parties, providing for a productive exchange of insights and information to provide for successful advancement of the project.

Task 4.0 Hydrologic Modeling

4.0 ResSim Model Development

4.1.1 ResSim Modeling of Proposed Project and Alternatives

A HEC-ResSim computer model, designed to simulate the project, has been developed and is used in actively engaging directly with stakeholders, providing essential insights into the potential effects of the project. Collaboration with stakeholders has proven invaluable in our endeavor to comprehend possible effects of the project.

Specifically, we are continuing collaborating closely with the Sacramento Municipal Utility District (SMUD) to gain a comprehensive understanding of the operational flexibility within the Upper American River Project (UARP), and how it may affect water flows in the South Fork America River. Our objective is to ensure that our approach accurately reflects the existing operational procedures and the resultant potential effects on the UARP.

Ongoing discussions with SMUD have highlighted the need to provide further modeling techniques to accommodate requested adjustments. The new requirements, making these adjustments and conducting the additional analysis will necessitate an expanded effort that goes beyond the current modeling scope and budget. This additional effort specifically encompasses the modification of underlying Union Valley Reservoir modeling assumptions



and adjustments to the model logic to generate the requested operational model output.

This proposed change order element encompasses the effort of Zanjero to incorporate the expanded ResSim model simulation requirements along with the requisite technical analysis.

4.3 CALSIM 3 Modeling of Proposed Project and Alternatives

Calsim 3, a computer model developed by the Department of Water Resources (DWR), serves as a pivotal tool in the assessment of potential operational effects of the project on Folsom Reservoir, the Lower American River (LAR), and the integrated operations of the Central Valley Project and State Water Project. The modeling output generated by CALSIM 3 holds a fundamental role in bolstering the District's outreach endeavors with Reclamation and other stakeholders invested in the Lower American River as well as information to be included in the environmental impact report.

The use of the CALSIM 3 model has been accounted for as stipulated in the current project scope and budget. This change order is presented to cover supplementary funding to address additional effort discovered to adequately calibrate the interface between ResSim and Calsim 3 (ResSim modeling output information is used to develop input information to the Calsim 3 model).

4.3.1 LAR Water Temperature Modeling

Water temperature modeling of Folsom Reservoir and the Lower American River will be carried out by Stantec, a sub-consultant to Zanjero. Stantec will use the automated Folsom Reservoir CE-QUAL-W2 model and American River regression models to investigate temperature effects of the project. This budget augmentation reflects 1) time for Zanjero to work with Stantec providing necessary hydrologic modeling data used for temperature modeling, and 2) additional funding requested by Stantec to perform the water temperature modeling.

II. TOTAL NOT-TO-EXCEED BUDGET

The total not-to-exceed budget totals \$76,044, as follows.

Personnel	Role on Project	Rate	Total Hours	Total
Michael Preszler	Project Manager	\$250.00	154	\$38,500
Frank Lyles	Modeling	\$190.00	178	\$33,820
	Temperature Modeling (sub-consultant)			\$3,724
Total Change Order No. 4 Request:				\$76,044.00

**COST PROPOSAL - October 6, 2023 - Budget Augmentation No. 4
MODIFICATION OF WATER RIGHT PERMIT 21112: STRATEGIC SUPPORT AND
TECHNICAL ASSISTANCE SUBMITTED TO EI DORADO IRRIGATION DISTRICT
BY ZANJERO**

	<i>Team Member</i>	Michael Preszler	Principal	Scientist/ Engineer				
		<i>Role on Project</i>	Project Manager	Water Resources	Modeling	Project Coordination/ Administration	Hours Per Task	Cost Per Subtask
		<i>Rate per hour</i>	\$ 250	\$ 250	\$ 190	\$ 120		
\$28,160	Task 1.0 - Program Kick-Off, Oversight and Coordination							
	1.1 Project Management and Coordinate Task Activities	8				8	\$ 2,000	
	1.2 Team 3 - hour Kick-Off meeting with the District					0	\$ -	
	1.3 Coordination Meetings with the District	28		32		60	\$ 13,080	
	1.4 Agency and other Stakeholder Meetings	28		32		60	\$ 13,080	
\$0	Task 2.0 - Strategy and Process Review							
	2.1 EIR Kick-Off Team Meeting					0	\$ -	
	2.2 Review/Comment CEQA Project Description					0	\$ -	
	2.3 CEQA Project Alternatives							
	2.3.1 - Review Existing and Past Alternatives					0	\$ -	
	2.3.2 - Develop Alternatives Screening Criteria					0	\$ -	
	2.3.3 - Develop Preliminary Alternatives Listing					0	\$ -	
	2.3.4 - Review Write-up of Alternatives					0	\$ -	
\$0	Task 3.0 - Development of Technical Information							
	3.1 Hydrology Data					0	\$ -	
	3.1.1 - Hydrology Development Documentation					0	\$ -	
	3.2 Water Demand Projections					0	\$ -	
	3.3 Modeling Output Interface/With Impact Analysis					0	\$ -	
	3.4 Hydrologic Analysis					0	\$ -	
\$47,884	Task 4.0 - Hydrologic Modeling							
	4.1 ResSim Model Development					0	\$ -	
	4.1.1 - ResSim Modeling of Proposed Project and Alternatives	48		56		104	\$ 22,640	
	4.1.2 - Hydropower Modeling					0	\$ -	
	4.1.3 - White Water Boating Recreation Modeling					0	\$ -	
	4.1.4 - ResSim Modeling Technical Memorandum					0	\$ -	
	4.2 CALSIM II Model Dataset Verification of Model Assumptions					0	\$ -	
	4.3 CALSIM II Modeling of Proposed Project and Alternatives	32		48		80	\$ 17,120	
	Subconsultant Modeling						\$ 3,724	
	4.3.1 - LAR Water Temperature Modeling	10		10		20	\$ 4,400	
	4.3.2 - Sacramento River Water Temperature Modeling					0	\$ -	
	4.4 Prepare Modeling Technical Memorandum					0	\$ -	
	4.5 Develop Modeling Technical Appendices					0	\$ -	
\$0	Task 5.0 - Environmental Impact Report							
	5.1 Administrative Draft EIR					0	\$ -	
	5.2 Public Draft Environmental Impact Report					0	\$ -	
	5.2.1 Address Draft EIR Comments					0	\$ -	
	5.3 Administrative Final Environmental Impact Report					0	\$ -	
	5.4 Final Environmental Impact Report					0	\$ -	
	Total Hours	154	0	178	0	332		
	Total Labor	\$ 38,500	\$ -	\$33,820	\$ -		\$ 76,044	
Total Budget =							\$ 76,044	

October 9, 2023

Brian Deason
El Dorado Irrigation District
2890 Mosquito Road
Placerville, CA 95667
Via email to ContractManagement@eid.org

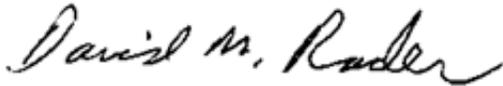
Subject: Proposal for RFQ/RFP20-08 – Permit 21112 EIR

Dear Brian and Elizabeth:

As requested in recent meetings, we have prepared this Amendment to our contract scope of work and budget for this EIR. This Amendment adds additional funding to Task 2.1.2 Administrative Draft EIR for those sections heavily depending on modelling results (hydrology and water quality, recreation, energy and biology). It also updates select billing rates and extends the timeline of the project to June 30, 2024.

Please, do not hesitate to contact us if you have any questions regarding any aspect of our revised scope of work and cost.

Sincerely,



David Rader
Project Manager
David.Rader@aecom.com
(650) 776-6445



Petra Unger
Principal/Authorized Signatory
Petra.Unger@aecom.com
(916) 712-3740

Section 1. Revised Scope of Work

2.1.2 Administrative Draft EIR

During the preparation of the Administrative Draft EIR, AECOM is assessing the proposed project impacts, providing a comparative analysis of project alternatives, and identifying potentially feasible mitigation measures. The analysis of hydrology and associated secondary effects (e.g., aquatic resources, recreation, energy) is based in large part upon the hydrologic modeling results. Based on our current work on the review of modelling results (both ResSim for the South Fork and preliminary CalSim for Folsom Lake and system reservoirs) provided by Zanjero, several iterations of modelling have been necessary to fine tune the model and interpret results to ensure all potential impacts of the project and alternatives are adequately analyzed. Thus, we are requesting additional funding and time for those resource specialist involved in preparing the model dependent EIR section. In addition, we are requesting additional funding for project management staff to help facilitate the discussion and analysis and to prepare a defensible administrative draft EIR for EID review.

- Zanjero modeling results provide sufficient information to accurately analyze the energy, hydrology, recreation and biology impacts resulting from project implementation.
- Draft EIR will be published for public review by January.
- Final EIR will be certified and project approved by May 2024.

Assumptions

The following assumptions apply to our proposed scope of work, budget, schedule for this Amendment:

- Total duration of contract is extended to June 30, 2024.
- Current remaining budget will be allocated to all other sections of the Administrative Draft EIR, Public Draft EIR and Final EIR.
- Additional funding from this request will be allocated to ongoing detailed analysis of model dependent topics, and project coordination, as outlined above.
- All meetings will continue to be conducted via conference call or video call.
- No field work is required; EIR analysis will continue to be based on desktop review of model results provided by Zanjero.

Modification of Water Right Permit 21112 EIR Project No. 16003.01

AECOM COST ESTIMATE

10/6/2023

Task No.	TASKS	Project Director Unger Rate/Hour \$285	Project Manager Rader \$215	Rec Planner \$163	Sr Bio \$195	Sr Bio \$160	Water Eng Hyd/WQ \$180	Env Planner AQ/GHG \$145	Total Hours	Total Dollars
2	Preparation of EIR									
2.1	Draft EIR									
2.1.1	Technical Studies and Reports								0	
2.1.2	Admin Draft EIR	40	80	150	24	60	120	30	504	\$93,265
2.1.3	Print-check Draft EIR								0	\$0
2.1.4	Public Review Draft EIR								0	\$0
2.1.5	Public Review Meeting								0	\$0
	Subtotal for Task 2.1	40	80	150	24	60	120	30	504	\$93,265
	Total Labor Hours	40	80	150	24	60	120	30	504	
	Total Direct Labor Dollars	\$11,400	\$17,200	\$24,435	\$4,680	\$9,600	\$21,600	\$4,350		\$93,265

El Dorado Irrigation District

Additional Point of Diversion for Water Right Permit 21112

**Contract change orders for hydrologic modeling and
environmental services**

October 23, 2023

PREVIOUS BOARD ACTION

- August 10, 2020 – Board awarded a contract to Zanjero in the amount of \$395,890 to perform hydrologic modeling
- October 26, 2020 – Board awarded a contract to AECOM in the amount of \$364,275 to prepare an Environmental Impact Report
- February 28, 2022 – Board awarded a contract change order to Zanjero, Inc. in the amount of \$124,840 for hydrologic modeling services
- August 28, 2023 – Board authorized additional funding in the amount of \$16,000 for a hydrologic modeling services contract amendment

SUMMARY OF ISSUE

- District is pursuing a change petition to add a point of diversion and a place of storage to Water Right Permit 21112
- Staff requests Board approval of:
 - Contract change order to Zanjero, Inc. for hydrologic modeling services; and
 - Contract change order to AECOM for environmental services; and
 - Additional funding for change orders and capitalized labor

OUTLINE

- Project overview
- Project status update
 - Hydrologic Modeling
 - Environmental Review
- Contract Change Orders
- Funding request

PROJECT OVERVIEW

- Water Right Permit 21112 authorizes consumptive diversion of 17,000 acre-feet per year
- Direct diversion, diversion to storage and releases from Project 184 reservoirs
- Authorized point of diversion for consumptive use at Folsom Reservoir
- Total cumulative storage of 32,931 acre-feet per year (Caples, Aloha, Silver Lakes)

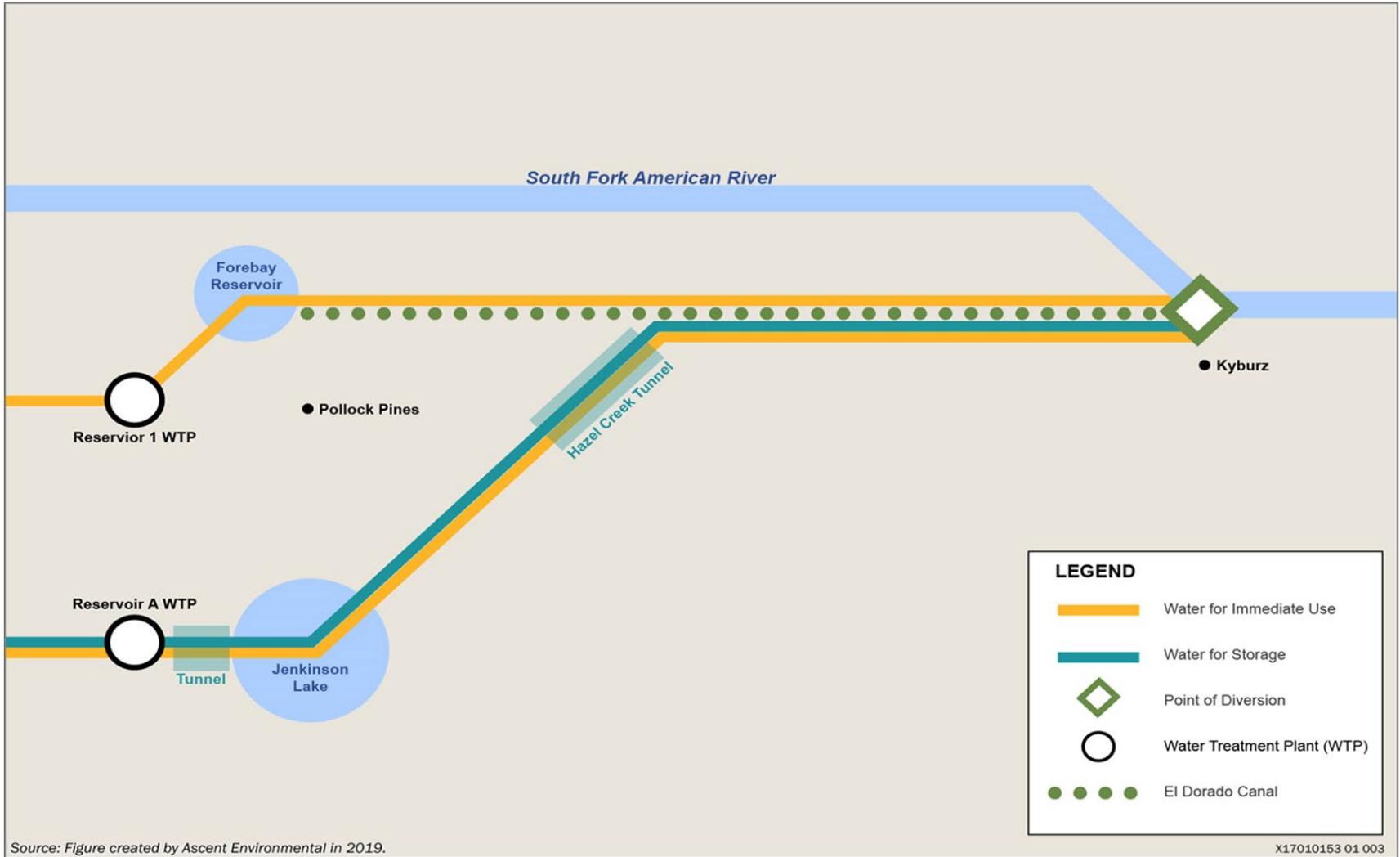
PROPOSED PROJECT

- Modification of Water Right Permit 21112
 - Diversion at El Dorado Diversion Dam
 - Re-diversion to storage at Jenkinson Lake
 - Storage at Jenkinson Lake
- Maintain existing diversion at Folsom
- No change to maximum of 17,000 acre-feet per year for consumptive use
- No change to total cumulative storage of 32,931 acre-feet per year

Diversion at El Dorado Diversion Dam

- Utilizes existing infrastructure
- Water currently diverted for power generation would be used for consumptive use
- Less water would be returned to the South Fork below El Dorado Powerhouse due to change from power to consumptive uses
- Diverted water could be re-diverted to storage at Jenkinson Lake

Operations - Permit 21112



Diversion at El Dorado Diversion Dam

- No new physical infrastructure necessary to divert Permit 21112 water at the El Dorado Diversion Dam
- Improvements would be required to convey at the maximum rate of diversion currently authorized under Permit 21112 (i.e., 156 cfs)
 - El Dorado Canal between the El Dorado Diversion Dam and the Hazel Creek Tunnel inlet
 - Channel that conveys water from the outfall of the Hazel Creek Tunnel to Jenkinson Lake

OUTLINE

- Project overview
- Project status update 
 - Hydrologic Modeling
 - Environmental Review
- Contract Change Orders
- Funding request

Hydrologic Modeling

- Hydrologic modeling is an essential tool needed to support the water rights change petition and CEQA environmental review processes for the project
 - HEC-ResSim model to evaluate potential impacts to South Fork American River
 - CalSim III model to evaluate potential impacts to Central Valley Project / State Water Project operations
 - CE-QUAL-W2 to evaluate Folsom Reservoir coldwater pool and water temperature management on the lower American River



Hydrologic Modeling

- Zanjero, Inc. developed a HEC Res-Sim hydrologic model of the District's Project No. 184 system that could be joined with an existing model of Sacramento Municipal Utility District's (SMUD) Upper American River Project (UARP)
 - Zanjero coordinated with SMUD to accurately model UARP operations
 - Hydrologic model of the entire South Fork American River watershed
 - Model for the current project and will also be useful for analyzing future projects and District operations

Hydrologic Modeling

- Zanjero, Inc. has also initiated modeling efforts to evaluate potential impacts to downstream resources associated with diverting water upstream of Folsom
 - Folsom Reservoir coldwater pool
 - Water temperature and flow management on the Lower American River and the Sacramento River
- This modeling effort requires use of a suite of separate modeling tools, CalSim III and separate temperature model
- This modeling phase requires calibration between ResSim and CalSim modeling

Hydrologic Modeling

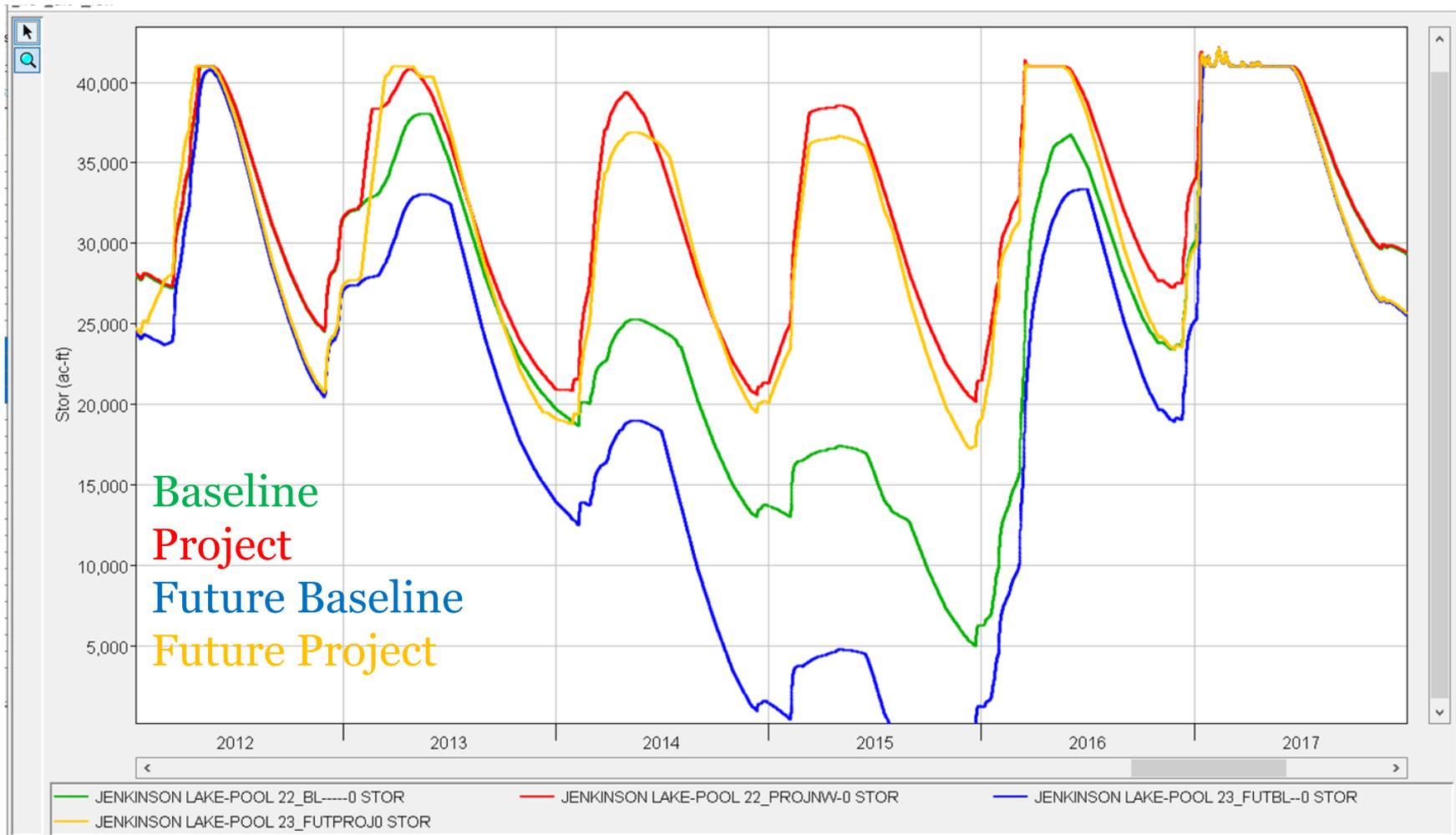
- The model development is a multi-step process
 - Compiling and updating hydrologic information
 - Developing a baseline model representing current operational conditions
 - Developing modeling scenarios for the new proposed project and the alternatives
- Modeling requires extensive coordination to ensure the model is accurately depicting system operations and extensive outreach to help engage stakeholders
- Model development continues to be an iterative process with multiple refinements

P-21112 Diversions at El Dorado Diversion Dam - Project w/ Future Demands

Average Monthly, AF

Water Year	Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	WY	CY
2005	Wet	0	0	83	1,780	30	50	60	61	60	39	0	0	2,162	2,108
2006	Wet	0	0	30	61	56	61	60	61	60	36	0	0	425	405
2007	Critically Dry	0	0	10	1,069	7,152	4,169	60	307	336	0	0	0	13,103	14,192
2008	Dry	0	0	1,100	4,107	3,934	5,860	0	0	0	0	0	0	15,000	14,868
2009	Below Normal	0	0	967	4,810	3,358	57	523	143	51	0	0	0	9,909	9,467
2010	Wet	0	0	525	4,238	0	26	49	61	60	30	0	0	4,989	4,507
2011	Wet	0	0	44	61	56	61	60	61	60	61	0	0	464	420
2012	Below Normal	0	0	0	772	3,478	2,655	82	61	19	0	0	0	7,067	7,099
2013	Critically Dry	0	0	32	20	8,489	3,924	60	1,394	402	51	0	0	14,371	15,000
2014	Critically Dry	0	0	661	1,846	5,631	7,523	0	0	0	0	0	0	15,661	15,000
2015	Critically Dry	0	0	0	4,265	7,493	3,241	0	0	0	0	0	0	15,000	15,000
2016	Below Normal	0	0	0	4,572	56	61	60	61	55	0	0	0	4,865	4,909
2017	Wet	0	0	44	61	56	61	60	61	60	46	0	0	449	449
2018	Below Normal	0	0	44	61	1,227	2,155	60	61	38	0	0	0	3,646	3,604
2019	Wet	0	0	2	1,835	45	61	60	61	60	49	0	0	2,173	2,185
2020	Dry	0	0	13	10	6,729	4,095	44	61	54	0	0	0	11,006	10,993
2021	Critically Dry	0	0	0	1,205	5,024	6,704	2,068	0	0	0	0	0	15,000	15,000

Jenkinson Storage (2013-2015)



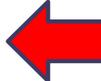
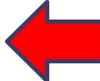
Environmental Review

- Contract to AECOM to prepare an environmental impact report (EIR)
- The environmental review process is advancing in conjunction with the hydrologic modeling
- Preparation of the EIR is highly dependent on hydrologic modeling
 - Model provides data that directly informs the analysis of potential effects (hydrology, biology, recreation, and hydropower, etc.)

Environmental Review

- Numerous technical meetings with the Zanjero and AECOM teams to discuss model outputs needed to perform the effects analysis
- Currently anticipate release of Draft EIR for public review in early 2024
- Factors that may affect timeline
 - Ongoing stakeholder outreach efforts
 - Coordination with responsible agencies
 - Development of alternatives and/or mitigation measures

OUTLINE

- Project overview
- Project status update
 - Hydrologic Modeling
 - Environmental Review
- Contract Change Orders 
- Funding request 

CONTRACT CHANGE ORDER - Zanjero

- Several efforts exceed the original scope of hydrologic modeling (Zanjero contract):
 - Many technical and stakeholder meetings
 - Addition of “future baseline” and “future project”
 - Addition of “current infrastructure” operations
 - Refinements to UARP modeling (“rinse and repeat”)
 - Calibration of ResSim and CalSim modeling
- Requested change order in the amount of \$76,044 for these additional hydrologic modeling services

CONTRACT CHANGE ORDER - AECOM

- Several efforts exceed the original scope of environmental services/EIR (AECOM contract):
 - Many technical meetings with Zanjero
 - Extensive review of additional modeling output
 - Addition of “future baseline”
 - Addition of “current infrastructure” operations
- Requested change order in the amount of \$93,265 for these additional environmental review services

FUNDING

Zanjero, Inc. contract change order	\$76,044
AECOM contract change order	\$93,265
Capitalized labor	\$25,000
Total	\$169,309

- Funding source for the project is 100% water facility capacity charges
- Original Zanjero contract amount is \$395,890; contract change order 4 brings the total contract amount to \$770,874
- Original AECOM contract amount is \$364,275; contract change order brings the total contract amount to \$457,540

BOARD OPTIONS

- **Option 1:** Award contract change orders to Zanjero, Inc. in the not-to-exceed amount of \$76,044 for hydrologic modeling services and AECOM in the not-to-exceed amount of \$93,265 for environmental services and authorize additional funding of \$25,000 for capitalized labor for a total funding request of \$194,309 for the Permit 21112 Change in Point of Diversion, Project No. 16003.

BOARD OPTIONS

- **Option 2:** Take other action as directed by the Board.
- **Option 3:** Take no action.

RECOMMENDATION

- **Option 1**

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider ratifying EID General Warrant Registers for the periods ending October 3 and October 10, 2023, and Board and Employee Expense Reimbursements for these periods.

PREVIOUS BOARD ACTION

The Board ratifies the District’s General Warrant Registers at each regular meeting of the Board.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

Section 24600 of the Water Code provides that no claim shall be paid unless allowed by the Board.

SUMMARY OF ISSUE

District staff notifies the Board of proposed payments via email and requests ratification of the warrant registers at the subsequent regular meeting of the Board. Copies of the Warrant Registers are sent to the Board on the Friday preceding the Warrant Register’s date. If no comment or request to withhold payment is received from any Director prior to the following Tuesday morning, the warrants are mailed out and formal ratification of said warrants is agendized on the next regular Board agenda.

BACKGROUND/DISCUSSION

Current Warrant Register Information

Warrants are prepared by Accounts Payable, and are reviewed and approved by the Finance and Accounting Manager, the Director of Finance, and the General Manager or their designee.

Register Date	Check Numbers	Amount
October 3, 2023	706419 – 706511	\$566,296.10
October 10, 2023	706512 – 706634	\$822,494.10

Current Employee Expense Reimbursements

Employee Expenses and Reimbursements have been reviewed and approved by the Finance and Accounting Manager, the Finance Director, and the General Manager prior to the warrants being released. These expenses and reimbursements are for activities performed in the interest of the District in accordance with Board Policy 12065 and Resolution No. 2007-059.

Additional information regarding Board and employee expense reimbursements is available for copying or public inspection at District headquarters in compliance with Government Code Section 53065.5.

BOARD OPTIONS

Option 1: Ratify the EID General Warrant Register and Board and Employee Expense Reimbursements as submitted.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: Executive Summaries

Attachment B: Employee Expense Reimbursements totaling \$100 or more

Attachment C: Board Expense Reimbursements



Rebecca Lane
Finance and Accounting Manager



Jamie Bandy
Finance Director



Jennifer Sullivan
Clerk to the Board



Jim Abercrombie
General Manager

Attachment A

September 28, 2023

To: Jim Abercrombie, General Manager
From: Rebecca Lane, Finance and Accounting Manager
Via: Jamie Bandy, Director of Finance
RE: Warrant Register Executive Summary Approval

Attached is the summary for October 3, 2023 for your review and approval.

Executive Summary for October 3, 2023 -- \$566,296.10:

This summary highlights significant disbursements made by major business activity:

Development Services (Fund 105) – none to report

General District Operations (Fund 110)

- \$61,394—Aqua Metric Sales Company for 282 water meters, various sizes
- \$4,844—AT&T for wide-area network service
- \$4,255—CDW Government for 5-year AirLink software subscription
- \$3,650—Commerce Printing Service for September/October Waterfront newsletter printing services
- \$5,088—Empire Safety & Supply for warehouse inventory
- \$3,525—Hunt & Sons, Inc. for fuel delivery
- \$11,220—Liebert Cassidy Whitmore for legal services
- \$3,770—Real Freedom, LLC for a credit balance refund on customer account
- \$4,000—Tony Dunn Construction for a credit balance refund on customer account

Engineering Operations (Fund 210)

- \$3,240—Kleinfelder, Inc. for hydroelectric compliance monitoring services

Water Operations (Fund 310)

- \$17,983—Aqua-Tech Company for dive inspection and tank cover cleaning services
- \$4,075—BSK Associates for regulatory lab testing
- \$6,212—Grainger for cable ties, pressure gauges, adapters, bushings, two truck boxes and other miscellaneous operating supplies

Wastewater Operations (Fund 410)

- \$8,805— California Overhead Door, Inc. for repair of sludge truck loading bay door at EDHWWTP
- \$6,910—CLS Labs for regulatory lab testing
- \$11,981—Herc Rentals, Inc. for a vacuum-assisted pump rental
- \$4,989—Mallory Safety and Supply, LLC for gas monitor repair service, sensor calibration and the purchase of a winch bracket and stainless steel cable
- \$8,400—Sierra Site Services for emergency pumping services at Marina Village 1 Lift Station

Recycled Water Operations (Fund 510) – none to report

Hydroelectric Operations (Fund 610)

- \$9,350—Rigging International Group, Inc. for a 3-day rope access training course for seven attendees
- \$14,854—Sierra Rock, LLC for crushed limestone aggregate

Recreation Operations (Fund 710)

- \$13,379—Talmo & Associates, Inc. for temporary labor at Sly Park Recreation

Capital Improvement Projects (Construction Funds 140, 340, 440, 540, 640 and 740)

- \$19,279—Corrpro Companies, Inc. for cathodic services – EDHWWTP Backwash Tank (Project #21064.01)
- \$170,958—Costa Fencing, Inc. for fence replacement services – P184 Animal Fence Replacement (Project #22052.01)
- \$3,734—Hastie’s Capitol Sand and Gravel Co. for rock deliveries – Water Service Line Replacement (Project #23002.01)
- \$13,914—Kleinfelder, Inc. for hydroelectric compliance monitoring services – FERC: C46 thru C49 Recreation Resource Management (Project #06098H.01)
- \$61,664—Peterson Brustad, Inc. for professional engineering and design services:
 - >Project #STUDY15.01 – EDM2 Condition Assessment (\$55,749)
 - >Project #06082H.02 – FERC: C50.1 Silver Lake Campground East Re-Construction (\$5,915)
- \$30,375—Zanjero for strategic support and technical assistance – Permit 21112 Change in Point of Diversion (Project #16003.01)

October 5, 2023

To: Jim Abercrombie, General Manager
From: Rebecca Lane, Finance and Accounting Manager
Via: Jamie Bandy, Director of Finance
RE: Warrant Register Executive Summary Approval

Attached is the summary for October 10, 2023 for your review and approval.

Executive Summary for October 10, 2023 -- \$822,494.10:

This summary highlights significant disbursements made by major business activity:

Development Services (Fund 105)

- \$3,902— Joe Vicini, Inc. for asphalt patch paving services

General District Operations (Fund 110)

- \$5,000—Imperial Industries, Inc. for a deposit toward freightliner truck
- \$5,000—Pitney Bowes Reserve Account for postage for warehouse meter

Engineering Operations (Fund 210)

Water Operations (Fund 310)

- \$9,093—California Custom Tee's for 333 customized shirts
- \$3,305—DXP Enterprises, Inc. for flash mixer parts for EDHWTP
- \$46,161—Joe Vicini, Inc. for asphalt patch paving services
- \$19,978—MCS Inspection for specialty tank coating inspection services
- \$190,711—PG&E for electric service

Wastewater Operations (Fund 410)

- \$10,610—Edward R. Bacon Company, Inc. for a sewage ejector pump

Recycled Water Operations (Fund 510) – none to report

Hydroelectric Operations (Fund 610)

- \$7,829—J.M. Equipment, Inc. for a combilift rental

Recreation Operations (Fund 710)

- \$12,586—El Dorado Disposal Service, Inc. for trash disposal
- \$11,069—Talmo & Associates, Inc. for temporary labor at Sly Park Recreation

Capital Improvement Projects (Construction Funds 140, 340, 440, 540, 640 and 740)

- \$5,530—A T.E.E.M. Electrical Engineering for electrical services – Reservoir A PLC Replacement (Project #19033.01)
- \$4,268—GHD, Inc. for engineering services – Wastewater Collection Facility Relocation (Project #17034.01)
- \$108,530—Joe Vicini, Inc. for asphalt patch paving services – Water Service Line Replacement (Project #23002.01)
- \$62,792—Quantum Resolve, Inc. for consulting services – Hansen 7 Software Replacement (Project #18055.01)
- \$23,000—Raftelis for consulting services – Hansen 7 Software Replacement (Project #18055.01)

- \$189,892—RoofConnect for headquarters facility roof recoating – Headquarters Building Roof Repair (Project #23027.01)
- \$20,110—Stantec Consulting Services, Inc. for engineering and environmental reporting services:
 - >Project #23022.01 – Annual Reservoir and Dam Improvements (\$2,005)
 - >Project #21079.01 – Sly Park Intertie Improvements (\$18,105)
- \$15,064—Water Works Engineers, LLC for engineering and design services:
 - >Project #STUDY16.01 – Deer Creek Collection System Modeling (\$477)
 - >Project #21018.01 – 2022 Collection Pipeline Replacement (\$4,393)
 - >Project #22039.01 – EDHWWTP Filter 5 Rehabilitation (\$1,730)
 - >Project #17035.01 – Green Valley Bridge Relocation (\$4,234)
 - >Project #23032.01 – Marina Village 1 Lift Station (\$1,588)
 - >Project #19008.01 – EDM 1 Relocation/Camino Safety Project (\$2,642)

Employee Expense Reimbursements
 Warrant Registers dated 10/03/23 - 10/10/23

EMPLOYEE	DESCRIPTION	AMOUNT
Dennis Andrews	T2 and D2 Certification Renewals	\$120.00
Douglas Venable	Waders/Boots Reimbursement	\$407.44
Nicole Graham	RNW Env Comp Inspector G2 Certification (CWEA)	\$103.00
Daniel Corcoran	Retirement Party Supplies Reimbursement	\$101.74
Karen Cross	Mileage to P/U Employee Appr Banner & to Attend Public Tours	\$111.22
		\$843.40

Attachment C

Board Expense Reimbursements
Warrant Registers dated 10/3/23 - 10/10/23

DESCRIPTION	Lori Anzini	Alan Day	Pat Dwyer	Brian Veerkamp	George Osborne	Total
Personal Vehicle Expense						\$0.00
Hotel						\$0.00
Meals or Incidentals Allowance						\$0.00
Airfare, Car Rental, Misc Travel					\$95.37	\$95.37
Fax, Cell or Internet Service						\$0.00
Meeting or Conference Registration						\$0.00
Meals with Others						\$0.00
Membership Fees/Dues						\$0.00
Office Supplies						\$0.00
Reimburse prepaid expenses						\$0.00
Miscellaneous Reimbursements						\$0.00
	\$0.00	\$0.00	\$0.00	\$0.00	\$95.37	\$95.37