CORRECTED AGENDA
REGULAR MEETING OF THE BOARD OF DIRECTORS
EL DORADO IRRIGATION DISTRICT
District Board Room, 2890 Mosquito Road, Placerville, California
January 13, 2014 ~ 9:00 A.M.

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 three 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.
CALL TO ORDER
Roll Call
Pledge of Allegiance
Moment of Silence

NOMINATION AND ELECTION
The Board will hear nominations for Board Vice President.

ADOPT AGENDA

APPROVE CONSENT CALENDAR
Action on items pulled from the Consent Calendar

PUBLIC COMMENT

COMMUNICATIONS
Board of Directors
Clerk to the Board
General Manager

CONSENT CALENDAR
1. Finance (Pasquarello)
Ratification of EID General Warrant Registers for the periods ending December 3, December 10, December 17, December 24, and December 30, 2013, and Board Expense Reimbursements for these periods.

Option 1: Ratify the EID General Warrant Registers as submitted to comply with Section 24600 of the Water Code of the State of California. Receive and file Board Expense Reimbursements.
Option 2: Take other action as directed by the Board.
Option 3: Take no action.

Recommended Action: Option 1.

2. Clerk to the Board (Sullivan)
Approval of the Minutes of the December 9, 2013, 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.
3. **Finance (Pasquarello)**
   Resolutions certifying signatures on the District’s checking accounts.

   Option 1: Adopt resolutions certifying signatures for the Bank of America and El Dorado Savings Bank checking accounts.
   Option 2: Take other action as directed by the Board.
   Option 3: Take no action.

   **Recommended Action:** Option 1.

4. **Engineering (Megerdigian)**
   Request to adopt a resolution authorizing the General Manager to sign and submit a grant proposal to the United States Bureau of Reclamation for the WaterSMART: Water and Energy Efficiency Grants FY 2014 for the Main Ditch Improvements, Project No. 11032.

   Option 1: Adopt a resolution authorizing the General Manager to sign and submit a grant proposal to the United States Bureau of Reclamation for the WaterSMART: Water and Energy Efficiency Grants FY 2014 for the Main Ditch Improvements, Project No. 11032.
   Option 2: Take other action as directed by the Board.
   Option 3: Take no action.

   **Recommended Action:** Option 1.

5. **Finance (Price)**
   Consideration of El Dorado Irrigation District Disclosure Procedures to comply with all applicable disclosure obligations and requirements under the federal securities laws.

   Option 1: Approve the El Dorado Irrigation District Disclosure Procedures.
   Option 2: Take other action as directed by the Board.
   Option 3: Take no action.

   **Recommended Action:** Option 1.

**END OF CONSENT CALENDAR**

**DIRECTOR ITEMS**

6. **Board of Directors (Day)**
   Discussion and concurrence of 2014 EID Board standing committee assignments.

   Option 1: Concur with Board President Day’s recommendation of 2014 EID Board standing committee assignments.
   Option 2: Take other action as directed by the Board.
   Option 3: Take no action.

   **Recommended Action:** Option 1.
Director Items continued

7. **Board of Directors (Day)**
   Discussion of 2014 association and community organization assignments.
   
   **Recommended Action:** None – Information only.

8. **Board of Directors (Day)**
   Discussion of the District’s Capital Improvement Plan (CIP) ranking system.
   
   **Recommended Action:** None – Information only.

9. **Board of Directors (Day)**
   Discussion of staff powerpoint presentation material.
   
   **Recommended Action:** None – Information only.

10. **Board of Directors (Day)**
    Discussion with a subsequent vote at a later meeting vs. immediately voting on items.
    
    **Recommended Action:** None – Information only.

**INFORMATION ITEMS**

11. **Engineering / Operations (Mueller/McKinney)**
    Update of water supply conditions.
    
    **Recommended Action:** None – Information only.

**ACTION ITEMS**

12. **Engineering (T. Sullivan)**
    Consideration to award a contract to California Diesel and Power for the purchase of four stationary generators to be installed at water facilities in the not-to-exceed amount of $195,427, and authorize total funding of $380,694 for Project No. 13008.01.
    
    Vendor name changed to California Diesel and Power. The correction does not change the contract or total funding amounts.
    
    Option 1: Award a contract to California Diesel and Power for the purchase of four stationary generators to be installed at water facilities in the not-to-exceed amount of $195,427, and authorize total funding of $380,694 for Project No. 13008.01.
    
    Option 2: Take other action as directed by the Board.
    
    Option 3: Take no action.
    
    **Recommended Action:** Option 1.

13. **Finance (Pasquarello)**
    Funding approval for District Capital Improvement Plan (CIP) Projects.
    
    Option 1: Authorize funding for the CIP project as requested in the amount of $242,875.
    
    Option 2: Take other action as directed by the Board.
    
    Option 3: Take no action.
    
    **Recommended Action:** Option 1.
REVIEW OF ASSIGNMENTS
Board direction to staff

ADJOURNMENT

TENTATIVELY SCHEDULED ITEMS FOR FUTURE MEETINGS

Engineering
- Threat to Public Services of Facilities pursuant to Government Code Section 54957. Conference with Engineering re: Project 184 Dam Safety Requirements and Emergency Action Plan, Closed Session, regular Board meeting, February 2014 (Eymann)
- Certification of Final Environmental Impact Report, Adoption of Findings of Fact, Adoption of Statement of Overriding Considerations, and Approval of the El Dorado Forebay Dam Modification Project, regular Board meeting, February 10, 2014 (Deason)
- Request to award an engineering contract for the FERC Part 12D Independent Inspection of Project 184 Dams, regular Board meeting, March 2014 (Eymann)

Finance
- Consideration of a resolution authorizing the issuance of refunding revenue bonds and approving the execution and delivery of certain documents in connection therewith and certain other matters, regular Board meeting, January 27, 2014 (Price)

Safety / Security
- Consideration to replace security CCTV system components, regular Board meeting, June 2014 (Kilburg)
1) Awards and Recognitions
   a) We would like to recognize John Abercrombie who is retiring after 15 years of service. Your reliability and knowledge has been a valuable asset to the District. On behalf of everyone here, congratulations on your retirement. Best wishes for the future.

   b) We would also like to recognize the following employees for their years of service to the District.

<table>
<thead>
<tr>
<th>Name</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Lindstrom</td>
<td>35</td>
</tr>
<tr>
<td>Chris Sanchez</td>
<td>20</td>
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<tr>
<td>Jim Smith</td>
<td>20</td>
</tr>
<tr>
<td>Rick Carter</td>
<td>15</td>
</tr>
<tr>
<td>Dawn Noceti</td>
<td>15</td>
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<tr>
<td>Steve Hilton</td>
<td>15</td>
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<tr>
<td>Sean Latzen</td>
<td>15</td>
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<tr>
<td>Bret Stouffer</td>
<td>15</td>
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<tr>
<td>Zol Whitman</td>
<td>15</td>
</tr>
<tr>
<td>Radenko Odzakovic</td>
<td>15</td>
</tr>
<tr>
<td>Jake Eymann</td>
<td>10</td>
</tr>
<tr>
<td>Karen Cross</td>
<td>10</td>
</tr>
<tr>
<td>Dave Stabenow</td>
<td>10</td>
</tr>
<tr>
<td>Jayzack Leonard</td>
<td>10</td>
</tr>
<tr>
<td>Jorge Lopez</td>
<td>10</td>
</tr>
<tr>
<td>Bruce Thomas</td>
<td>10</td>
</tr>
<tr>
<td>David Constancio</td>
<td>10</td>
</tr>
<tr>
<td>Andy Ault</td>
<td>10</td>
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<tr>
<td>Aaron Davis</td>
<td>10</td>
</tr>
<tr>
<td>Jose Perez</td>
<td>10</td>
</tr>
<tr>
<td>Calvin Pratt</td>
<td>10</td>
</tr>
<tr>
<td>Reese Gary</td>
<td>10</td>
</tr>
<tr>
<td>Nathan Shrum</td>
<td>10</td>
</tr>
<tr>
<td>Bryson Pearson</td>
<td>10</td>
</tr>
<tr>
<td>Paul Waldo</td>
<td>10</td>
</tr>
<tr>
<td>Clay Wicks</td>
<td>10</td>
</tr>
<tr>
<td>Jason Lawrence</td>
<td>10</td>
</tr>
<tr>
<td>Enrique Robles</td>
<td>10</td>
</tr>
<tr>
<td>Jon Beall</td>
<td>10</td>
</tr>
</tbody>
</table>
Years of service recognition continued

Rick Wontorek 5 years
Jim Pritchard 5 years
Bill Cassady 5 years
Gregory McDonald 5 years
Joel Levinson 5 years
Bob Rice 5 years
Brian Deason 5 years
Andrea Tarbox 5 years
Barbara Paddock 5 years
Alison Costa 5 years
David Traver 5 years
John Niebuhr 5 years
John Garrity 5 years
Bill Yackley 5 years
James Proctor 5 years

We appreciate your dedication and commitment to the District.

c) Welcome to the District, Ray Pledger. Ray has been hired as a replacement to the position of Telecommunications Technician in the Drinking Water Division.

d) We received a letter from Sandy Nurse, President of Sierra Foothill Laboratory, Inc. thanking the District, and Vickie Caulfield in particular, for an excellent working relationship over the last four years. She wrote, "...Ms. Vickie Caulfield has completely won my trust. Not only was she smart, but she spoke straight and truthfully." Ms. Nurse closed the letter by writing, "Now after 4 years of a contractor relationship with EID, I am happy to be able to reply to my friends that Sierra Foothill Laboratory’s experience with EID has been awesome and positive!"

e) We received a phone call from Jaime Morazick complimenting Abby Tompkins on her explanation of Ms. Morazick’s first EID bill. She stated “She did an excellent job...she explained the sewer portion, the recycle and the residential to me perfectly and in a way that I could understand it, and she was very polite and patient.”

2) Staff Reports and Updates

a) EID employee Casey Steel receives H.R. LaBounty Safety Award from the Association of California Water Agencies-Joint Powers Insurance Authority (ACWA-JPIA) for promoting safety in the workplace – Summary by Ron Kilburg
EID employee receives H.R. LaBounty Safety Awards from the Association of California Water Agencies-Joint Powers Insurance Authority (ACWA-JPIA) for promoting safety in the workplace.

One of the District’s Guiding Principles is “100% Safety”. Today, one individual is being recognized for his contribution, time, and effort in improving workplace safety for his co-workers. This individual has received a monetary award of $100 from the Association of California Water Agencies-Joint Powers Insurance Authority (ACWA-JPIA), and is being presented the H.R. LaBounty Safety Award to highlight and honor this achievement.

The award recipient is Casey Steel, Layout and Fabrication Welder, who is assigned to the Fleet Services Division. Mr. Steele has been an employee with the District for over seven years, and by the very nature of his work contributes regularly in making safety improvements. He is being recognized today for his design, fabrication and reconfiguration of the construction truck utility beds. The modifications include a platform on the rear bumper to store and secure the soil compactor (Wacker) and the ninety pound jackhammer, and racks for traffic control devices that provide easy to reach access. All modifications were made for the purpose of improving field ergonomics and preventing back injuries which can be prevalent in the construction industry. Mr. Steel’s safety improvement is an excellent example of personal responsibility and integrity.

On behalf of the Fleet Services Division management team, General Manager, and the Board of Directors, it is my privilege to acknowledge Casey Steel for his contribution to improve workplace safety and being the recipient of the ACWA-JPIA “H.R. LaBounty Safety Award”.
EL DORADO IRRIGATION DISTRICT

Subject: Ratification of EID General Warrant Registers for the periods ending December 3, December 10, December 17, December 24, and December 30, 2013, and Board Expense Reimbursements for these periods.

Previous Board Action:
February 4, 2002 – The Board approved to continue weekly warrant runs, and individual Board member review with the option to pull a warrant for discussion and Board ratification at the next regular Board meeting.

August 16, 2004 – Board adopted the Board Expense Payments and Reimbursement Policy.


Board Policies (BP), Administrative Regulations (AR), and Board Authority:
Section 24600 of the Water Code of the State of California provides no claim is to be paid unless allowed by the Board.

Summary of Issue:
The District’s practice has also been to notify the Board of proposed payments by email and have the Board ratify the Warrant Registers. Copies of the Warrant Registers are sent to the Board of Directors on the Friday preceding the Warrant Register’s date. If no comment or request to withhold payment is received from any Director by the following Tuesday morning, the warrants are mailed out and formal ratification of said warrants is agendized on the next regular Board agenda.

On April 1, 2002, the Board requested staff to expand the descriptions on the Warrant Registers and modify the current format of the Warrant Registers.

On July 30, 2002, the Board requested staff to implement an Executive Summary to accompany each Warrant Register which includes all expenditures greater than $3,000 per operating and capital improvement plan (CIP) funds.
**Staff Analysis/Evaluation:**

Warrant registers submitted for December 3, December 10, December 17, December 24, and December 30, 2014, totaling $3,969,333.74, and Board Expense Reimbursements for these periods.

**Current Warrant Register Information**

Warrants are prepared by Accounts Payable; reviewed and approved by the Accounting Manager; the Director of Finance and the General Manager or their designee.

<table>
<thead>
<tr>
<th>Register Date</th>
<th>Check Numbers</th>
<th>Amount</th>
</tr>
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<td>December 3, 2013</td>
<td>636227 - 636376</td>
<td>$ 753,292.45</td>
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<tr>
<td>December 10, 2013</td>
<td>636377 - 636521</td>
<td>$ 1,046,806.79</td>
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<td>December 17, 2013</td>
<td>636522 - 636653</td>
<td>$ 425,869.05</td>
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<td>December 24, 2013</td>
<td>636654 - 636812</td>
<td>$ 602,938.06</td>
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<td>December 30, 2013</td>
<td>636813 - 636927</td>
<td>$ 1,140,427.39</td>
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</table>

**Current Board Expense Payments and Reimbursement Information**

The items paid on Attachment A are expense and reimbursement items that have been reviewed and approved by the Clerk to the Board, Accounting Manager and the General Manager before the warrants are 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.

Copies of the Board expense reimbursement information may be viewed by the public at District headquarters in compliance with Government Code Section 53065.5. If further information is required it can be obtained by submitting a public information request to the Communications Department.

**Board Decision/Options:**

Option 1: Ratify the EID General Warrant Registers as submitted to comply with Section 24600 of the Water Code of the State of California. Receive and file Board Expense Reimbursements.

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

Option 3: Take no action.

**Staff/General Manager's Recommendation:**

Option 1.

**Support Documents Attached:**

Attachment A: Board Expenses/Reimbursements
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>John Fraser</th>
<th>William George</th>
<th>Alan Day</th>
<th>George Osborne</th>
<th>George Wheelon</th>
<th>Dale Coco, MD</th>
<th>Greg Prada</th>
<th>Total</th>
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<tr>
<td>Personal Vehicle Expense</td>
<td>113.00</td>
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<td>Meals with Others</td>
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<td></td>
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<td>0.00</td>
</tr>
</tbody>
</table>

|                | 0.00    | 113.00 | 0.00    | 1,691.47     | 0.00  | 0.00  | 0.00     | 1,804.47   |
MINUTES
REGULAR MEETING OF THE BOARD OF DIRECTORS
EL DORADO IRRIGATION DISTRICT
District Board Room, 2890 Mosquito Road, Placerville, California
December 9, 2013 ~ 9:00 A.M.
SWEARING-IN CEREMONY ~ 9:00 A.M.

Board of Directors

GEORGE W. OSBORNE
BOARD PRESIDENT
Division I

VACANT
BOARD VICE PRESIDENT

Greg Prada
Board Director
Division II

Bill George
Board Director
Division III

Dale Coco, MD
Board Director
Division IV

Alan Day
Board Director
Division V

General Manager and
Executive Staff

JIM ABERCROMBIE
GENERAL MANAGER

THOMAS D. CUMPSTON
GENERAL COUNSEL

Jennifer Sullivan, Clerk to the Board
Mary Lynn Carlton, Communications and Community Relations
Vicki Hoffman, Human Resources
Tom McKinney, Operations
Brian Mueller, Engineering
Mark Price, Finance
Tim Ranstrom, Information Technology

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 for this meeting, please contact the EID ADA coordinator at 530-642-4045 or e-mail 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.

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 three 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.
CALL TO ORDER
President Osborne called the meeting to order at 9:00 A.M.

Roll Call
Board
Present: Directors Osborne, Prada, George, Coco, and Day

Staff
Present: General Manager Abercrombie, General Counsel Cumpston, and Clerk to the Board Sullivan

Pledge of Allegiance and Moment of Silence
President Osborne led the Pledge of Allegiance followed by a moment of silence “dedicated to our troops that will be gone during the holidays protecting our freedom and way of life.”

SWEARING-IN CEREMONY
Prior to the call to order, Directors Prada and Coco took the oath of office during a ceremonial swearing in by El Dorado County Superior Court Judge Daniel B. Proud.

NOMINATION AND ELECTION
MOTION: Main motion by Director Osborne nominating Director Day as Board President and Director George as Board Vice President. Director George seconded the motion.

MOTION: A substitute motion by Director Day to nominate Director Coco as Vice President. Director Prada seconded the motion.

MOTION FAILED
Ayes: Directors Prada and Day
Noes: Directors Osborne and George
Abstain: Director Coco

MOTION: A second substitute motion by Director Day to vote separately on the nominations of President and Vice President. Director Prada seconded the motion.

MOTION FAILED
Ayes: Directors Prada and Day
Noes: Directors Osborne and George
Abstain: Director Coco

MOTION: Director Osborne amended main motion to continue the nomination and election of the Board Vice President until the first regular Board meeting of January 2014. Director George accepted the amendment.

MOTION CARRIED
Ayes: Directors Osborne, George, Prada, Coco, and Day

MOTION: Main motion to elect Director Day as Board President.

MOTION CARRIED
Ayes: Directors Osborne, George, Prada, Coco, and Day
ADOPT AGENDA
ACTION: Agenda was adopted.

MOTION CARRIED
Ayes: Directors George, Osborne, Prada, Coco, and Day

APPROVE CONSENT CALENDAR
ACTION: Director Day pulled Item No. 6. Consent Calendar was then approved as amended.

MOTION CARRIED
Ayes: Directors George, Osborne, Prada, Coco, and Day

PUBLIC COMMENT
Bob Luca, El Dorado Hills
Richard Boylan, Diamond Springs
Harry Norris, Camino, Past EID Board member

COMMUNICATIONS
Board of Directors
Director Osborne reported on sessions that he attended during the ACWA Fall conference.

Clerk to the Board
None

General Manager
1) Awards and Recognitions
   a) We would like to recognize the following employees for their years of service to the District.
      Sharon Fraser 25 years
      Jennifer Downey 10 years
      We appreciate your dedication and commitment to the District.
   b) We would also like to recognize; Raul Calderon who is retiring after 25 years of service; Cindy Starr who is retiring after 24 years of service; Jim Smith who is retiring after 20 years of service; Steve Patti who is retiring after 18 years of service and Randy Shepherd who is retiring after 16 years of service. We have all benefited from your experience and loyalty. On behalf of everyone here at the District, congratulations on your retirement; and best of luck with future plans.

2) Staff Reports and Updates
   a) Summary of Recent Past District Financing and Discussion Related to Upcoming Potential Financing Options - Summary by Mark Price and Dave Houston, Managing Director Citigroup

   Public Comment: Bob Luca, El Dorado Hills
General Manager Communications continued

3) Jenkinson Lake at Sly Park
   As of November 26, 2013, Jenkinson Lake had 28,378 acre-feet of storage, which is 69% of full capacity. The historical end of month average for the month of December is 64%.

4) Caples Lake
   As of November 26, 2013, Caples Lake had 13,365 acre-feet of storage, which is 60% of full capacity. The historical end of month average for the month of December is 70%.

CONSENT CALENDAR

1. Finance (Pasquarello)
   Ratification of EID General Warrant Registers for the periods ending November 5, November 12, November 19, and November 26, 2013, and Board Expense Reimbursements for these periods.

   **ACTION:** Option 1: Ratified the EID General Warrant Registers as submitted to comply with Section 24600 of the Water Code of the State of California. Received and filed Board Expense Reimbursements.

   **MOTION CARRIED**
   Ayes: Directors George, Osborne, Prada, Coco, and Day

2. Clerk to the Board (Sullivan)
   Approval of the minutes of the November 12, 2013, regular and special meetings of the Board of Directors.

   **ACTION:** Option 1: Approved as submitted.

   **MOTION CARRIED**
   Ayes: Directors George, Osborne, Prada, Coco, and Day

3. Clerk to the Board (Sullivan)
   Proposed 2014 Board meeting schedule, rescheduling Board meetings that fall on either legal holidays or present scheduling conflicts.

   **ACTION:** Option 1: Adopted the proposed 2014 Board meeting schedule, rescheduling Board meetings that fall on either legal holidays or present scheduling conflicts.

   **MOTION CARRIED**
   Ayes: Directors George, Osborne, Prada, Coco, and Day

4. Office of the General Counsel (Cumpston)


   **MOTION CARRIED**
   Ayes: Directors George, Osborne, Prada, Coco, and Day
Consent Calendar continued

5. Safety/Security (Kilburg)
Consideration to award a professional services contract in the not-to-exceed amount of $70,825 to Sierra Security & Fire to replace 14 District-owned burglar alarm systems that are end-of-service life and authorize additional funding of $13,500 for facility security improvements, for total project funding of $84,325.

ACTION: Option 1: Awarded a professional services contract in the not-to-exceed amount of $70,825 to Sierra Security & Fire to replace 14 District-owned burglar alarm systems that are end-of-service life and authorize additional funding of $13,500 for facility improvements, for total project funding of $84,325.

MOTION CARRIED
Ayes: Directors George, Osborne, Prada, Coco, and Day

6. Finance (Griffin)
Consideration of a resolution declaring certain District personal property to be surplus.

ACTION: Option 1: Adopted Resolution No. 2013-029, declaring certain District personal property to be surplus.

MOTION CARRIED
Ayes: Directors Day, George, Osborne, Prada, and Coco

END OF CONSENT CALENDAR

INFORMATION ITEMS

7. Office of the General Counsel (Cumpston)

Public Comment: Pat Snelling

ACTION: None – Information only.

8. Office of the General Counsel (Cumpston)
Update on El Dorado Water & Power Authority Supplemental Water Rights Project (CIP Project No. 06004G).

Public Comment: Paul Raveling, El Dorado Hills

ACTION: None – Information only.
DIRECTOR ITEMS

9. Board of Directors (Prada)
Reconsideration of previous Board action taken on October 28, 2013, to continue EID’s 5% rate increases for water, recycled water, and wastewater. The reconsideration proposal would defer the current Board-approved rates from an effective date of January 1, 2014, to May 1, 2014, or later.

Public Comment: Paul Raveling, El Dorado Hills

MOTION: Option 1: Reconsider action previously taken, and if a majority of the Board votes to reconsider, this matter shall be placed on the agenda for reconsideration at a subsequent meeting.

MOTION FAILED
Ayes: Directors Prada and Day
Noes: Directors Osborne, George, and Coco

CLOSED SESSION
A. Closed session pursuant to Government Code section 54957 (Kilburg)
Threat to Public Services or Facilities pursuant to Government Code Section 54957
Conference with Safety/Security staff – District Burglar Alarms, Proposed Replacement and Additional Improvements; Headquarters Security Measures Orientation

ACTION: The Board met and conferred with staff including safety and security staff regarding the proposed replacement and additional improvements for the District’s burglar alarm systems and Headquarters’ security measures but took no reportable action.

REVIEW OF ASSIGNMENTS
Directors Day and Prada requested that a staff analysis on the variable rate debt including a comparison of projected investment earnings and interest costs if interest rates rise in the future.

Director Prada requested a report to the Board on the proceeds received from the disposition of property declared surplus in Item No. 6 of this agenda.

ADJOURNMENT
President Day adjourned the meeting at 12:36 P.M.

__________________________________________
Alan Day, President
Board of Directors
EL DORADO IRRIGATION DISTRICT

ATTEST:

__________________________________________
Jennifer Sullivan
Clerk to the Board
EL DORADO IRRIGATION DISTRICT

Approved: __________________________
EL DORADO IRRIGATION DISTRICT

Subject: Resolutions Certifying Signatures on the District’s Checking Accounts

Previous Board Action:


Board Policies (BP), Administrative Regulations (AR), and Board Authority:

AR 3091.09 requires the District Treasurer to establish procedures to govern all financial transactions.

Summary of Issue

The Board adopts resolutions as necessary to maintain accurate authorized signers for the District’s bank accounts. The District maintains four checking accounts at Bank of America for which money is drawn from in the name of El Dorado Irrigation District: Public Funds Checking Account, Controlled Disbursement Account, Non-analyzed Investment Account (Leasing account), and Flexible Spending Health Claims Checking Account. The District also maintains one checking account at El Dorado Savings Bank for the Sly Park recreation facility.

Staff Analysis/Evaluation

Effective December 13, 2013, Alan Day became the District’s new Board President, replacing George W. Osborne. Alan Day’s signature needs to be added to the bank signature cards, and George W. Osborne’s signature needs to be removed from the bank signature cards.

Two signatures are required on all checks for payment in the name of El Dorado Irrigation District on the District’s Bank of America and El Dorado Savings Bank checking accounts. The new Board President, General Manager Jim Abercrombie, and Director of Finance Mark T. Price are approved signers on the accounts. Separate draft resolutions are offered for each of the two banks.
**Board Decisions/Options:**

**Option 1:** Adopt resolutions certifying signatures for the Bank of America and El Dorado Savings Bank checking accounts.

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

**Option 3:** Take no action.

**Staff/General Manager’s Recommendation**

Option 1

**Supporting Documents Attached**

A. Proposed Resolution for Certification of Signatures – Bank of America Checking Account
B. Proposed Resolution for Certification of Signatures – El Dorado Savings Bank Checking Account
Tony Pasqualello  
Accounting Manager

Mark Price  
Director of Finance

Tom Cumpston  
General Counsel

Jim Abercrombie  
General Manager
RESOLUTION OF THE BOARD OF DIRECTORS OF
EL DORADO IRRIGATION DISTRICT
CERTIFICATION OF SIGNATURES – BANK OF AMERICA
CHECKING ACCOUNTS

BE IT RESOLVED that the EL DORADO IRRIGATION DISTRICT has established in its name accounts with the BANK OF AMERICA, N.A. (“Bank”), upon such terms and conditions as may be agreed upon between the parties, and that the General Manager of the District or his/her designee be and hereby is authorized to establish and maintain such accounts; and

BE IT FURTHER RESOLVED that the persons of the EL DORADO IRRIGATION DISTRICT named below be and hereby are authorized to sign checks on behalf of the EL DORADO IRRIGATION DISTRICT; provided, however that the authorized signatories of checks for the Health Claims Checking Accounts and Flexible Spending Account are the insurance carrier’s administrator for those programs.

BE IT FURTHER RESOLVED that the Bank is hereby requested, authorized and directed to honor all checks for payment of money drawn in the name of the El Dorado Irrigation District on its Controlled Disbursement Account and Non-analyzed Investment Account (Leasing Account), including those drawn to individual orders of any person or persons whose names appear thereon as signer(s) thereof, when such checks bear the signatures of any two of the persons of EL DORADO IRRIGATION DISTRICT named below, and further that the facsimile signatures for Board President Alan Day, General Manager Jim Abercrombie, and Director of Finance Mark T. Price shall be deemed good and sufficient signatures for such purpose.

BE IT FURTHER RESOLVED that the Bank is hereby requested, authorized and directed to honor all checks for payment of money drawn in the name of the El Dorado Irrigation District on its Health Claims Checking Accounts and Flexible Spending Account when such checks bear the signatures of the insurance carrier’s administrator for those programs, and further that the facsimile signatures of such insurance carrier’s administrator shall be deemed good and sufficient signatures for such purpose.

BE IT FURTHER RESOLVED that the specimen signatures appearing opposite the names and titles below are the genuine signatures of such persons:
Resolution No. 2013-xxx

Signatures

Alan Day President, Board of Directors
Jim Abercrombie General Manager
Mark T. Price Director of Finance

BE IT FURTHER RESOLVED that Clerk to the Board Jennifer Sullivan duly certifies the genuineness of said signatures of the foregoing persons of EL DORADO IRRIGATION DISTRICT.

BE IT FURTHER RESOLVED that this Resolution shall take effect and be effective immediately upon its adoption.

The foregoing Resolution was introduced at a regular meeting of the Board of Directors of EL DORADO IRRIGATION DISTRICT, held on the 13th day of January 2014, by Director ____________, who moved its adoption. The motion was seconded by Director ____________, and a poll vote taken which stood as follows:

AYES:
NOES:
ABSENT:
ABSTAIN:

The motion having a majority of votes “Aye”, the resolution was declared to have been adopted, and it was so ordered.

Alan Day
President, Board of Directors
EL DORADO IRRIGATION DISTRICT
Resolution No. 2014-xxx

I, the undersigned, Clerk to the Board of EL DORADO IRRIGATION DISTRICT hereby certify that the foregoing resolution is a full, true and correct copy of a Resolution of the Board of Directors of EL DORADO IRRIGATION DISTRICT entered into and adopted at a regular meeting of the Board of Directors held on the 13th day of January 2014.

Jennifer Sullivan
Clerk to the Board
EL DORADO IRRIGATION DISTRICT
RESOLUTION OF THE BOARD OF DIRECTORS
OF EL DORADO IRRIGATION DISTRICT
CERTIFICATION OF SIGNATURES–EL DORADO SAVINGS BANK
CHECKING ACCOUNT

BE IT RESOLVED that the EL DORADO IRRIGATION DISTRICT has established in its name an account with EL DORADO SAVINGS BANK, upon such terms and conditions as may be agreed upon between the parties, and that the General Manager of the District be and hereby is authorized to establish and maintain such account; and

BE IT FURTHER RESOLVED that the persons of the EL DORADO IRRIGATION DISTRICT named below be and hereby are authorized to sign checks on behalf of the EL DORADO IRRIGATION DISTRICT.

BE IT FURTHER RESOLVED that the bank is hereby requested, authorized and directed to honor all checks for payment of money drawn in the name of the El Dorado Irrigation District on its SLY PARK RECREATION AREA checking account, including those drawn to individual orders of any person or persons whose names appear thereon as signer(s) thereof, when such checks bear the signatures of any two persons of EL DORADO IRRIGATION DISTRICT named below, and further that the facsimile signatures for Board President Alan Day, General Manager Jim Abercrombie, and Director of Finance Mark T. Price shall be deemed good and sufficient signatures for such purpose.

BE IT FURTHER RESOLVED that the specimen signatures appearing opposite the names and titles below are the genuine signatures of such persons:

Signatures

Alan Day President, Board of Directors  
Jim Abercrombie General Manager  
Mark T. Price Director of Finance

BE IT FURTHER RESOLVED that Clerk to the Board Jennifer Sullivan duly certifies the genuineness of said signatures of the foregoing persons of EL DORADO IRRIGATION DISTRICT.

BE IT FURTHER RESOLVED that this Resolution shall take effect and be effective immediately upon its adoption.
The foregoing Resolution was introduced at a regular meeting of the Board of Directors of EL DORADO IRRIGATION DISTRICT, held on the 13th day of January 2014, by Director __________, who moved its adoption. The motion was seconded by Director __________, and a poll vote taken which stood as follows:

AYES:
NOES:
ABSENT:
ABSTAIN:

The motion having a majority of votes “Aye”, the resolution was declared to have been adopted, and it was so ordered.

---

Alan Day
President, Board of Directors
EL DORADO IRRIGATION DISTRICT

ATTEST:

Jennifer Sullivan
Clerk to the Board
EL DORADO IRRIGATION DISTRICT

(SEAL)
I, the undersigned, Clerk to the Board of EL DORADO IRRIGATION DISTRICT hereby certify that the foregoing resolution is a full, true and correct copy of a Resolution of the Board of Directors of EL DORADO IRRIGATION DISTRICT entered into and adopted at a regular meeting of the Board of Directors held on the 13th day of January 2014.

Jennifer Sullivan
Clerk to the Board
EL DORADO IRRIGATION DISTRICT
EL DORADO IRRIGATION DISTRICT

SUBJECT:

Request to adopt a resolution authorizing the General Manager to sign and submit a grant proposal to the United States Bureau of Reclamation for the WaterSMART: Water and Energy Efficiency Grants FY 2014 for the Main Ditch Improvements, Project No. 11032.

Previous Board Actions:

- October 15, 2013 – The Board adopted the 2014 – 2018 CIP, which included this project, subject to funding availability.

- The Board has adopted numerous resolutions regarding grants with the United States Bureau of Reclamation.

Board Policies and Administrative Regulations:

BP 5000, Water Supply Management: The Board is committed to provide a water supply based on the principles of reliability, high quality, and affordability in a cost-effective manner with accountability to the public.

BP 5030, Water Conservation: It is Board policy to take reasonable and prudent measures to conserve all water and to adopt and implement water-use efficiency programs that will benefit its customers.

Summary of Issue:

In October 2013, the United States Bureau of Reclamation (Reclamation) issued a funding opportunity announcement for the WaterSMART: Water and Energy Efficiency Grants FY 2014 (Grant). The funding opportunity is for projects that seek to conserve and use water more efficiently, increase the use of renewable energy, improve energy efficiency, or provide any other activities that address water related crisis or conflicts. Given that piping of the Main Ditch meets these objectives, staff has prepared a Grant proposal for submittal to Reclamation requesting a cost share of $1.0 million. One of the mandatory requirements of the Grant is the submittal of an official resolution adopted by the Board of Directors to be submitted up to 30 days after the application deadline of January 23, 2014.
Staff Analysis:

The work associated with this Grant proposal is to pipe the approximate 3-mile length of the Main Ditch with a 36 or 42-inch diameter pipe to prevent seepage and evaporation losses and improve raw water quality entering the Reservoir 1 water treatment plant (Res 1 WTP). The Main Ditch conveys a maximum of 15,080 ac-ft annually of raw water (40 cfs maximum) from Forebay Reservoir to Res 1 WTP. Because most of the ditch is earthen and unlined, a portion of the water is lost to seepage and evapotranspiration. Previous studies of flow loss measurements have estimated that the ditch losses range between 1,000 ac-ft to 1,300 ac-ft per year, depending on flow rates and weather conditions. Animals and humans have direct access to the water in the ditch prior to it reaching the Res 1 WTP and all homes neighboring the Main Ditch rely on septic systems for waste disposal, as there is no public sewer collection system in the area. Areas along the ditch have also been subject to erosion and the accumulated sediment is then carried to the Res 1 WTP. Any impurities and sediment that may enter the ditch are removed through the treatment process at the Res 1 WTP to make potable water for consumptive use.

The reduction in conveyance losses would aid the District during water short years as a hedge against drought, assist in meeting the State of California mandate of 20% water conservation by 2020, maintain existing water supplies for future needs, and provide water for renewable hydroelectric power generation at the El Dorado Powerhouse. Improvements in raw water quality will provide for less costly and more efficient operations at the Res 1 WTP. The District has included the project in many planning documents and in the Capital Improvement Plan for several years.

The Reclamation funding opportunity allows match funding up to $1.0 million for larger, phased on-the-ground projects that may take up to 3 years to complete. The District’s funding portion would initially be $1.0 million. The Grant proposal for the Main Ditch piping will be submitted as a three-phase, three-year project, with a total estimated cost of $5.1 million.

In March 2012, the El Dorado County Water Agency (EDCWA) authorized reimbursement to the District on a 50-50 costs basis up to $40,000 for an environmental consultant for the Main Ditch Improvements. A cultural resources inventory and evaluation and a wetlands delineation related to piping the Main Ditch have been completed and are included in the Grant proposal. Then in April 2013, the EDCWA authorized an additional $195,000 to perform land survey and initial design. Some land survey has been completed and staff is soliciting on-call consultants to prepare a basis of design report for use in developing the final design.

The current 5-year Capital Improvement Program identified the Main Ditch project at an estimated expenditure level of $200,000 in 2014 to prepare the design and continue with the environmental process. If the Grant is awarded to the District by Reclamation, a commitment of match funding of $1.0 million must be made by the Board for the project and staff would return to the Board to request funding as needed over the three year period of the Grant.

Staff will continue to seek other funding opportunities to offset the remaining $3.1 million cost to complete all work through construction.
One step in the Grant submittal process is adoption of an official resolution committing the District to the financial and legal obligations associated with receipt of WaterSMART Grant financial assistance. The resolution verifies:

- The identity of the official with legal authority to enter into an agreement,
- That the Board of Directors has reviewed and supports the application submitted,
- The District's capability to provide the amount of funding specified in the funding plan, and
- That the District will work with Reclamation to meet established deadlines for entering into a cooperative agreement.

If the resolution is adopted by the Board today, the Grant proposal will be submitted to Reclamation and before the application deadline of January 23, 2014.

**Board Decisions/Options:**

**Option 1:** Adopt a resolution authorizing the General Manager to sign and submit a grant proposal to the United States Bureau of Reclamation for the WaterSMART: Water and Energy Efficiency Grants FY 2014 for the Main Ditch Improvements, Project No. 11032.

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

**Option 3:** Take no action.

**Staff/General Manager Recommendation:**

Option 1

**Supporting Documents Attached:**

A. Draft Resolution
B. WaterSMART Grant Application
Cindy Megerdigan, P.E.
Water/Hydro Engineering Manager

Brian Mueller, P.E.
Director of Engineering

Mark Price, CPA
Director of Finance

Thomas Cumpson
General Counsel

Jim Abercrombie
General Manager

Consent Item - 4 - January 13, 2014
Reclamation WaterSMART Grant Resolution
Resolution No. 2014-

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE EL DORADO IRRIGATION DISTRICT

AUTHORIZING THE GENERAL MANAGER TO SIGN AND SUBMIT A GRANT
APPLICATION TO, AND ENTER INTO A COOPERATIVE AGREEMENT WITH,
THE UNITED STATES BUREAU OF RECLAMATION FOR THE
WATERSMART: WATER AND ENERGY EFFICIENCY GRANTS PROGRAM

WHEREAS the Board of Directors of the EL DORADO IRRIGATION DISTRICT desires to
submit a grant application to the United States Bureau of Reclamation for the WaterSMART: Water
and Energy Efficiency Grants Program for 2014; and

WHEREAS the Board of Directors of the EL DORADO IRRIGATION DISTRICT has
reviewed and supports the subject grant application; and

WHEREAS the Board of Directors of the EL DORADO IRRIGATION DISTRICT affirms
that the EL DORADO IRRIGATION DISTRICT is capable of providing funding and/or in-kind
contributions specified in the subject grant application; and

WHEREAS the Board of Directors of the EL DORADO IRRIGATION DISTRICT affirms
that the EL DORADO IRRIGATION DISTRICT will work with the United States Bureau of
Reclamation to meet all established deadlines for entering into a cooperative agreement;

NOW, THEREFORE, BE IT AND IT IS HEREBY RESOLVED by the Board of
Directors of EL DORADO IRRIGATION DISTRICT that Jim Abercrombie, General Manager of the
EL DORADO IRRIGATION DISTRICT, is authorized to sign and submit a grant application to the
United States Bureau of Reclamation for the WaterSMART: Water and Energy Efficiency Grants
Program for 2014, and to enter into a cooperative agreement if the grant is made.

The foregoing Resolution was introduced at a regular meeting of the Board of Directors of the
EL DORADO IRRIGATION DISTRICT, held on the 13th day of January 2014, by Director
Resolution No. 2014-

, who moved its adoption. The motion was seconded by Director , and a poll vote taken, which stood as follows:

AYES:
NOES:
ABSENT:
ABSENT:

The motion having a majority of votes "Aye", the resolution was declared to have been adopted, and it was so ordered.

Alan Day
President, Board of Directors
EL DORADO IRRIGATION DISTRICT

ATTEST:

Jennifer Sullivan
Clerk to the Board
EL DORADO IRRIGATION DISTRICT
(SEAL)
Resolution No. 2014-

I, the undersigned, Clerk to the Board of the EL DORADO IRRIGATION DISTRICT, hereby certify that the foregoing Resolution is a full, true and correct copy of a Resolution of the Board of Directors of the EL DORADO IRRIGATION DISTRICT entered into and adopted at a regular meeting of the Board of Directors held on the 13th day of January, 2014.

Jennifer Sullivan
Clerk to the Board
EL DORADO IRRIGATION DISTRICT
Funding Opportunity Announcement No. R14AS00001

El Dorado Irrigation District Main Ditch Piping

Applicant: El Dorado Irrigation District
2890 Mosquito Road
Placerville, CA 95667

Project Manager: Bob Rice, P.E.
Senior Engineer
2890 Mosquito Road
Placerville, CA 95667
Phone: 530-642-4056
Fax: 530-622-8597
brice@eid.org

Date: January 23, 2014
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Executive Summary
El Dorado Irrigation District Main Ditch Piping

Submittal Date: January 23, 2014

Submitted by: El Dorado Irrigation District
Placerville, El Dorado County, CA

The purpose of the project to pipe the El Dorado Irrigation District (District or EID) Main Ditch is to conserve and use water more efficiently and effectively, improve water quality, increase the use of renewable energy, improve energy efficiency, and assist in preventing water-related crises. The project will result in a quantifiable water savings of about 1,300 ac-ft annually with improved water management through improved raw water quality and reduces the need to acquire new water supplies. It is expected that the project will be accomplished in a phased approach with construction complete about 36-months after initial funding is provided.

The project is located in El Dorado County near Pollock Pines and Camino, California. The Main Ditch is approximately 3 miles long and conveys a maximum of 15,080 ac-ft annually of raw water (40 cfs maximum) from the Forebay Reservoir (450 ac-ft capacity) to the Reservoir 1 Water Treatment Plant. Because most of the ditch is earthen and unlined, a portion of the water is lost to seepage and evapotranspiration. Studies of flow loss measurements have shown that the ditch losses are up to 1,300 ac-ft per year, depending on flow rates and weather conditions. The nature of the work associated with this Grant request is to pipe the approximate 3-mile length of the Main Ditch with a 36 to 42-inch diameter HDPE pipe to prevent seepage and evaporation losses equating up to 1,300 ac-ft annually. This reduction in conveyance losses will aid the District during water short years as a hedge against drought, assist in meeting the State of California mandate of 20% water conservation by 2020, maintain existing water supplies for future needs, and provide water for renewable hydroelectric power generation.

Because the Main Ditch project is a larger, on-the-ground project that will take 3 years to complete, it will be conducted in a three-phase approach, as follows:

- Phase 1 – Design
- Phase 2 – Environmental Review/Permitting Process
- Phase 3 – Construction
Each phase of the project is expected to be substantially complete within the timeframes outlined in the schedule and funding requirements will be requested annually, for a period of up to 3 years.

**Background Data**

Located in the American River watershed are thousands of miles of earthen ditches and open ditches, constructed in the 1800’s for the gold mining industry. Today, this extensive system supplies both treated and raw water to thousands of customers in the region and downstream users in the California Bay Delta. High water loss due to water seepage and evapotranspiration occurs within these earthen, open ditches. Substantial maintenance must be done on the aging water infrastructure system in order to maintain operations and meet increasing customer demand. In addition, the ditches are susceptible to contamination and failure, putting drinking water supplies at risk and resulting in erosion and water quality issues.

Seepage and evapotranspiration from earthen ditches is a serious management problem in the mountain counties of California and contributes to unnecessary diversions from natural waterways feeding the California Bay Delta. In the late 1970’s, the District recognized the need to pipe the Main Ditch which was confirmed by the California Department of Health Services (See Attachment A). Since then, the District has applied for several grants to offset the cost, but with no success. With the 20% by 2020 mandate, the effort to pipe the ditch is now more critical. It is estimated that there is about 10% water loss associated with the Main Ditch, based on studies and reports conducted in previous years (See Attachments B and C). The need for improved water system reliability increases as rural areas continue to grow, water delivery systems age and deteriorate, and water purveyors prepare for drought conditions, and climate variability. The efficient use of current water supplies is one of the most economical and politically acceptable methods of increasing water supply availability to meet future demands and conservation goals. When purveyors use their current supplies more efficiently, less new water will be required in the future.

Earthen ditches have been constructed, in most areas, in soils which allow significant seepage and evapotranspiration. Piping provides a means for eliminating these water losses. The technical feasibility and scientific merit for this type of project has been well-documented in the following plans and studies:

- Water Resources Development and Master Plan – El Dorado County Water Agency
- Water System Reliability Study – Georgetown Divide Public Utilities District
- Integrated Water Resources Master Plan – El Dorado Irrigation District
- Ditch System Master Plan – El Dorado Irrigation District
- Nevada Irrigation District Raw Water Master Plan – Nevada Irrigation District
- Nevada Irrigation District Strategic Plan – Nevada Irrigation District
The California Water Plan has developed Efficient Water Management Practices which outline conservation measures and practices. Those specific to infrastructure improvements that contribute to the overall efficiency of water distribution systems include piping ditches and modifying distribution systems to increase the flexibility of water deliveries. Construction components to pipe the Main Ditch include: 15,000 lineal feet of large diameter pipe and associated appurtenances; modifications to the headworks at Reservoir 1 WTP, modifications to the outlet works at Forebay Reservoir, and enhancements to the existing SCADA system.

The project will assist in meeting CALFED Bay-Delta Program Goals, through reducing existing irrecoverable losses through excessive seepage of earthen ditches and evapotranspiration from open ditches, optimizing the efficient use of water supply, promoting the local conservation of water supply to serve the needs of local consumers, with availability to sell water to meet growing demands for domestic and raw water use, and increasing the efficiency of water supply to customers.

The water delivery system in the region conveys raw water from surface water sources to treatment plants for domestic use and/or provides the distribution mechanism for supplying raw water for irrigation and agricultural purposes. In many cases, these earthen ditches and open ditches are the sole source of drinking water supply for thousands of customers in El Dorado, Nevada, and Placer counties. They are in varying states of repair and provide differing levels of reliability. The water agencies in the region have invested millions of dollars in the maintenance of the historic conveyance system to meet growing demands on water supply, and improving these facilities is essential for the continued delivery of water in an effective and efficient manner. Therefore, piping of the Main Ditch has been included as a project in the Cosumnes, American, Bear, and Yuba Integrated Regional Water Management Plan.

El Dorado Irrigation District Water System

The District serves a population of more than 100,000 people through more than 38,000 active water meter connections. Two hundred pressure-regulating stations are needed for reliable operation due to the varying topographies. The potable water system contains more than 1,250 miles of pipe, 27 miles of ditches, 5 water treatment plants, 37 storage tanks/reservoirs, and 37 pumping stations. The District relies on surface water to meet its entire potable water demand. In the eastern region, where the Main Ditch is located, the facilities which transmit, treat, distribute, and store the potable water are the Reservoir 1 Water Treatment Plant (WTP) and El Dorado Forebay; and the Reservoir A WTP and
Reclamation WaterSMART: FY 2014 Water and Energy Efficiency Grant

Jenkinson Lake. The water is used for municipal and domestic purposes as well as agricultural.

Piping the Main Ditch will provide the District flexibility to meet water supply needs during critical water short years and its obligations during Reclamation cutbacks. As an example, in the summer of 2001 the District experienced a near crisis in supplying water to the community of El Dorado Hills due to a Reclamation cutback in Central Valley Project (CVP) supply from Folsom Lake. The District avoided the crisis by releasing a portion of the 15,080 ac-ft conveyed by the Main Ditch back into the South Fork American River and re-diverting that water at Folsom Lake to augment the El Dorado Hills supply provided under the CVP contract.

The District acquired the FERC El Dorado Project 184 from Pacific Gas & Electric in 1999. Project 184 includes reservoirs and associated dams, 22 miles of canal, a 21 MW renewable hydroelectric powerhouse, and other ancillary facilities. Prior to the transfer of ownership and water rights, the District purchased water from PG&E and its predecessor, Western States Gas and Electric Co. The original water rights claims date back to 1856, with additional claims being filed in the 1860s and 1870s. The water rights for diversions from Echo Lake were established in 1880 in a California Supreme Court decision. Then, in 1918, the California Railroad Commission (predecessor to the California Public Utilities Commission) recognized the use of water from the El Dorado Canal for irrigation and domestic purposes. Water used for generation at the El Dorado Powerhouse is returned to the South Fork American River which eventually flows to Folsom Reservoir, a Reclamation facility. Renewable energy generated at the El Dorado Powerhouse is sold to PG&E and distributed through the California ISO grid. The powerhouse generates enough power to serve the equivalent of 100 households annually with certified renewable energy. Figure 1 provides a map of the area showing the geographic location of the Main Ditch.
Figure 1 – Main Ditch Geographic Location Map
Reservoir 1 Water Treatment Plant and El Dorado Forebay

The District takes consumptive use of the water supply at the Main Ditch diversion, located at the El Dorado Forebay. This particular supply contributes 15,080 ac-ft per year to the District’s system firm yield. Over the past 5 years, the District’s annual diversions from Project 184 – Forebay Reservoir have averaged approximately 11,300 ac-ft per year. The District’s maximum and minimum diversions from this particular water source during this five-year period were 15,080 and 8,424 ac-ft per year, respectively. The sources of this water supply include natural flows in the South Fork American River and its tributaries, and stored water in Silver, Aloha, Echo, and Caples Lakes. Some additional water is obtained by small diversions into the El Dorado Canal from streams tributary to the South Fork American River. The supply is diverted from the South Fork American River at Kyburz and conveyed via the El Dorado Canal to the El Dorado Forebay. Water stored in the El Dorado Forebay is then diverted to either the Main Ditch for treatment at Reservoir 1 or diverted to the El Dorado Powerhouse for generation of renewable hydroelectric power.

The Reservoir 1 WTP treats water from the South Fork American River via the El Dorado Forebay and supplies up to 26 mgd of potable water to customers throughout the service area. Raw water is diverted at the El Dorado Forebay where it travels through the 3-miles of Main Ditch to the Reservoir 1 WTP. The Main Ditch also includes customers receiving raw water directly from the ditch. Water is stored in the adjacent Reservoir 1 storage reservoir which then flows by gravity to Reservoir 2/2A and the town of Camino or is pumped to the Pollock Pines Reservoir to customers at higher elevations.

A raw water pump station at the Reservoir A WTP allows raw water to be pumped to the Reservoir 1 WTP via the Sly Park Intertie during emergency situations. Or, water may be pumped through Reservoirs 2/2A through the Moosehall pump station providing a backup raw water supply to the Reservoir 1 WTP at times when the El Dorado Forebay supply is not available.

From Reservoir 2/2A, El Dorado Main (EDM) 1 and 2 continue westward conveying water through Placerville into the Gold Hill area. Prior to reaching the Gold Hill area, three major storage facilities (Reservoirs 3, 4, and 5) are situated along EDM 1 and 2. These storage facilities are utilized to reduce the pressure in the pipeline and provide system storage. At Reservoir 3, a lateral of EDM 1 begins and continues in a southerly direction around the southeastern edge of Placerville through Reservoir 6. The City of Placerville has turnouts along this lateral that divert water to the City water system. EDM 2 begins at Reservoir 2A in Camino and extends in a westerly direction, generally following the alignment of EDM 1. EDM 2 also terminates in the Gold Hill area. Reservoir 2A is supplied from Jenkinson Lake via the Camino Conduit and the Forebay Subsystem via the Moosehall Transmission Main. The Highway 49 Intertie connects downstream of Reservoir 6 and extends in a southerly direction to the Diamond Spring’s Main (DSM) near Diamond Springs.
The Gold Hill Intertie (GHI) connects to EDM 2 in the Gold Hill area and extends to the El Dorado Hills area along Green Valley Road. This pipeline provides water to the Cameron Park/Shingle Springs service zones. "Leg A" of the GHI connects with the DSM and extends from Green Valley Road to Reservoir 12. Another extension of the GHI, the AD3 Conduit extends from Bass Lake Road to the Bass Lake Tanks and to the Oakridge Tanks in the El Dorado Hills service zone.

Reservoir A Water Treatment Plant and Jenkinson Lake

Jenkinson Lake is the main storage reservoir in the District with a maximum capacity of 41,033 ac-ft. The dam was constructed as a portion of the Reclamation CVP in 1955. With the transfer of ownership from Reclamation of the Sly Park dam and associated lands and facilities in 2003, the District not only operates and maintains the Jenkinson Lake and Sly Park Dam facilities, including recreational aspects, but holds the water rights. The average annual use from this facility is approximately 23,000 ac-ft, though the District’s annual water right is for 33,400 ac-ft for beneficial uses. This water supply is used entirely within the District’s contiguous service area. Under average flow conditions, Jenkinson Lake is operated to maintain 14,000 to 18,000 ac-ft of carryover storage each year. The outlet works at Sly Park Dam have a maximum capacity of 125 cfs. Jenkinson Lake contributes approximately 20,920 ac-ft per year to the District’s system firm yield. Over the past 5 years, the District’s annual diversions from Jenkinson Lake have averaged approximately 22,600 ac-ft per year. The District’s maximum and minimum diversions from this particular water source during this five-year period were 25,745 and 20,800 ac-ft per year, respectively.

Jenkinson Lake receives inflow from Park, Hazel, and Camp Creeks, all of which are tributary to the North Fork Cosumnes River. With a drainage area of approximately 17.3 square miles, Park Creek and Hazel Creek contribute substantially to the total 45,920 ac-ft of average annual runoff flowing to the reservoir. However, due to annual variations in precipitation and runoff, water year runoff can vary substantially, ranging from approximately 8% of average in 1977 to 276% of average in 1983. Water from Camp Creek can be diverted from a diversion dam to Jenkinson Lake through the 7-foot diameter, 2,856-foot long Camp Creek tunnel. As much as 500 cfs can be diverted between November 1 and June 30. The District also has pre-1914 water rights for 12.5 cfs.

Water is released to the Reservoir A WTP for subsequent treatment, transmission, and distribution and supplies up to 64 mgd of potable water to customers. Water is treated at the Reservoir A WTP and conveyed to Reservoir A. A small portion of the finished water is pumped to the Sly Park Hills Pressure Zone where the water is used to serve customers at higher elevations. From Reservoir A, water is distributed based on system demands northwest into Reservoirs 2 and 2A in the El Dorado Forebay subsystem via the Camino Conduit, and southwesterly via the Pleasant Oak Main. Water flowing in the Pleasant Oak Main is conveyed through Reservoirs B and C. Water leaving Reservoir C flows westerly to
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Reservoir 7, where it enters the DSM. The DSM conveys water in a westerly direction through the Diamond Springs, El Dorado, Logtown, Shingle Springs, and Cameron Park service zones and terminates at Reservoir 12 located east of Cameron Park. A schematic representation of the Reservoir 1 and Reservoir A WTP systems is provided as Figure 2. A schematic of the entire District water system is provided as Figure 3.

Figure 2 – Reservoir 1 and Reservoir A WTP systems

Reclamation Relationships

The District has worked successfully with Reclamation to obtain and implement grant programs over the last 20 years. Some of the more recent grants include:

**Water Conservation Field Service Program – Agreement 07FG2000042**
- Residential/Multi-Family Toilet Replacement Voucher Project – $50,000 funded distribution of 400 high-efficiency toilets.

**Water Conservation Field Service Program – Agreement 06FG204109**
- Agricultural Urban Weather Stations – $13,750 funded the purchase and installation of two weather stations; one for agriculture and one for urban to identify microclimates that would benefit from added ET information within the District.
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- Agricultural Soil Moisture Measurement - $7,500 funded an agricultural measurement project to compare moisture readings from in-ground soil moisture sensors to those received from a neutron probe. The project compared various sensors in a variety of soil types against the neutron probe.
- Smart Water Application Technology North American Initiative - $11,250 funded commercial landscape irrigation research and strategy development. Under contract with PMSI, their final report dated November 21, 2006 assisted EID and the region in understanding the specific needs and attitudes of CII property and facility managers towards weather-based irrigation controllers.

_Urban Water Conservation Best Management Practices – Agreement 05FG201011_

- EID Full System Water Audit (AwwaRF Study) – $5,000 assisted with the funding of a system-wide water audit for EID that was performed under contract with Water Systems Optimization. The audit used 2003 data, and the final report was issued in September 2005.
- Urban Water Management Plan Update – $5,000 assisted with the funding of the 2005 UWMP.
- Water Wise Gardening in the Gold Country Region – $10,000 funded a collaborative and regional effort to produce an interactive CD-ROM garden and plant database. The project was started in 2004, and the popular CD was distributed through 2010, after which the database was converted to web-based access.

_Urban Water Conservation Best Management Practices – Agreement 04FG201036_

- Residential/Multi Family High Efficiency Clothes Washer Rebates – $15,000 assisted with funding EID's residential HECW rebates during this period.
- CII SIC Code & Survey Program – $5,000 funded temporary labor to code CII water service accounts with their appropriate Standardized Industrial Codes; as well as surveying CII sites with GPS to determine irrigated areas.
Figure 3 – El Dorado Irrigation District Water System
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Water Conservation Field Service Program – Agreement 03FG201028

- Ag & Urban Water Irrigation Training Program – $4,000 funded the training of two EID employees at the Irrigation Training and Research Center at California Polytechnic State University.
- Residential/Multi Family Water Efficient Clothes Washer Rebate – $5,000 funded approximately 100 high-efficiency clothes washer rebates for residential customers during this calendar year.
- Schools Waterless Urinal Retrofit Pilot Project – $6,000 funded a trial program of approximately 25 waterless urinal retrofits in schools receiving EID water service.
Technical Project Description

The specific goals of piping the Main Ditch (i.e., Project objectives) are to:

- Improve the reliability of raw water conveyance and storage through conversion of an open ditch to a pressurized pipe using proven material and technology,
- Construct conveyance improvements and metered turnouts to raw water customers,
- Installing water service meters,
- Conserve water lost through seepage and evapotranspiration,
- Assist the District in meeting the State of California goal of 20% water conservation by 2020,
- Improve and protect raw water quality for downstream municipal water users,
- Maintain the capacity of raw water conveyance and storage to meet anticipated future demands,
- Install SCADA components that allow remote monitoring and operation of raw water delivery,
- Increase renewable hydroelectric power generation, and
- Assist the State of California goal of 33% renewable energy production by 2020.

The Main Ditch was constructed in the mid 1880’s and remains an unlined earthen ditch for most of its 3-mile length. Figure 4 provides a USGS map of the alignment of the Main Ditch from Forebay Reservoir to Reservoir 1 WTP and depicts the entire length of the ditch to be piped. Figure 5 shows the relationship of Forebay Reservoir diversion to the El Dorado Powerhouse and Reservoir 1 WTP and connection to the South Fork of the American River.

Carrying raw water through a rural setting, the Main Ditch runs adjacent to many homes and backyards. The ditch was originally a source of raw water to many customers, but over the years most have turned to potable water to meet their needs. Currently, there are three remaining raw water customers along the 3-mile stretch prior to the WTP. See Photographs 1 and 2 for examples of bordering properties.

Because the Main Ditch is open, animals and humans have direct access to the water in the ditch prior to it reaching the Reservoir 1 WTP. All homes neighboring the Main Ditch rely on a septic system for waste disposal, as there is no public sewer collection system in the area. Any sediment and impurities, such as coliform and debris that may enter the waterway are removed through the treatment process at the WTP to make potable water for consumptive use. In 2103, under a separate grant, the District surveyed the area for the locations of wells and septic systems adjacent to the ditch. The survey shows that many septic systems are directly adjacent to the ditch. That map and accompanying report is provided as Attachment D.
Flows at the point of diversion from Forebay Reservoir and the head works of Reservoir 1 WTP were collected and are summarized in Figure 6. That data shows that during the summer months (June – October), water losses are approximately 350 ac-ft or 5% of the summer flows. In addition, water quality sampling was conducted that shows the increase in turbidity, and total coliform, and E-coli as the water travels through the earthen ditch to the Reservoir 1 WTP. Total coliform increases are summarized in Figure 7 and E-coli increases are summarized in Figure 8.

Areas along the ditch have been subject to erosion; the accumulated sediment is then carried to the Reservoir 1 WTP. See Photographs 3 and 4 for examples of eroded banks. There are also crossings and bridges along the ditch alignment which are used by the general public for access to properties. At the bridge on Blair Road, a large diameter culvert capturing drainage from the road and surrounding area enters the ditch. Examples are provided as Photographs 5 – 7. Because of the open channel ditch, debris and sediment can enter Reservoir 1 WTP at the intake as shown in Photograph 8.
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Figure 5 – Forebay Reservoir Water Diversions
Figure 6 – Water losses from Forebay Diversion to Reservoir 1 WTP

Figure 7 – Turbidity increases from Forebay Diversion to Reservoir 1 WTP
Figure 8 – Total coliform increases from Forebay Diversion to Reservoir 1 WTP

Figure 9 – E-coli increases from Forebay Diversion to Reservoir 1 WTP
Figure 10 – Project Schedule
Photo 1 – Ditch Section Adjacent to Backyard

Photo 2 – Ditch Section Adjacent to Backyard
Photo 3 – Backyard with Erosion

Photo 4 – Erosion along Ditch Alignment with Rock Stabilization
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Photo 5 – Culvert Pipe/Road Crossing

Photo 6 – Bridge Crossing
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Photo 7 – Storm Drain Culvert Inlet

Photo 8 – Intake at Reservoir 1 WTP
Construction Elements

The construction will be affected by the pipe design, site accessibility, and other factors. To prevent degradation of the proposed pipe due to root intrusion, all existing woody vegetation within 10-feet of the ditch will be removed. In addition, minor earthwork will be required to improve channel geometry, and prevent groundwater from undermining the pipe. The method employed for construction of the pipe will utilize heavy equipment to grade the ditch section to a uniform slope, fill areas that have eroded, and compact the soil to prevent settlement. It is anticipated that the piping of the Main Ditch will include the following project components and will be refined with the full design.

- Regrading and compacting of the ditch bed
- Installation of 15,000 lineal feet of large diameter (36 – 42-inch) pipe
- Installation of appurtenances such as; access manholes, turnouts, meters, valves, etc.
- Relocation of existing storm drain connections
- Improvements to the outlet at Forebay Reservoir
- Improvements to the intake to the Reservoir 1 WTP
- Enhancements to the SCADA system for flow and water quality measurements
- Installation of small-scale in-conduit hydro, where possible

Progress of the project will be monitored throughout the process by the project manager who will be a California Registered Professional Civil Engineer. Continuous environmental compliance support will be provided by a District Environmental Review Analyst. Progress reports will be generated documenting activities, expenditures, and schedule updates. Weekly construction meetings will be held with the contractor and project team to coordinate activities. Inspection will be provided on a daily basis with detailed reports and photographs of construction activities. Milestones will be monitored and adjustments made as necessary. A scope of work for the entire project is provided below.

Scope of Work

Because the Main Ditch project is a larger, on-the-ground project that will take 3 years to complete, it will be conducted in a three-phase approach, as follows:

- Phase 1 – Design
- Phase 2 – Environmental Review/Permitting Process
- Phase 3 – Construction

Each phase of the project is expected to be substantially complete within the timeframes outlined in the schedule and funding requirements will be requested annually, for a period of up to 3 years. Details of the Scope of Work for each phase are described below.
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Phase 1 – Design

Task 1 – Grant Administration and Management

This task will focus on overall project administration and management of tasks associated with the project. A project manager (PM) will be responsible for reporting to Reclamation and updating project status, as well as significant milestones and deliverables achieved. The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the objectives of the project on time and within budget.

1.1 Select Consultants

EID will prepare requests for proposals using standard procedures and policies for all work to be performed by consultants. Selection will be based on experience, scope of work, and costs.

1.2 Prepare Financial Reports

Financial reports will be prepared by the PM using the SF-425, Federal Financial Report, on a semi-annual basis. The reports will provide sufficient detail for Reclamation to approve of all expenditures.

1.3 Prepare Program Performance Reports

The objectives of this task are to summarize activities performed during the reporting period, to compare actual accomplishments to milestones, provide reasons why established milestones were not met, provide status of milestones, discuss schedule and budget activities, and to form the basis for determining whether invoices are consistent with work performed. The performance report will be submitted semi-annually.

1.4 Prepare Final Report

A final report will be prepared by the PM in a format acceptable to Reclamation and will summarize activities performed during the duration and provide the amount of water conserved. The report will provide sufficient detail to show how the project objectives and goals were met.

1.5 Monitor Budget

The PM will monitor expenditures and match funding. Financial reports will be prepared by the PM using the District financial system. The reports will provide sufficient detail for Reclamation to approve of all expenditures.

Deliverables: Financial and Program Performance Reports semi-annually, Consultant Contracts, and Final Report
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Task 2 – Right-Of-Way Activities

Under funds provided in a separate grant, the District has prepared a map outlining all parcels adjacent to the Main Ditch and performed a limited survey for use in a Basis of Design Report. Property title research will be required to determine easements and ownership. The District will contract the services of a licensed land surveyor to perform a topographic survey that will be used to prepare the detailed design of the project. This task will work to acquire easements for new alignments or where insufficient easements exist for current alignments as applicable to each project site construction.

2.1 Perform land survey for ditch alignment
2.2 Perform title research of parcels
2.3 Determine easement acquisition needs
2.4 Property Valuation: appraisal of land value associated with acquisition needs
2.5 Review property valuations
2.6 Prepare all legal documents associated with each proposed easement acquisition
2.7 Conduct negotiations with property owners associated with all required easement acquisitions

Deliverables: Land survey, preliminary title reports, map of parcels, land value appraisals, legal documents, and fully executed grants of easement (50 parcels assumed)

Task 3 – Conduct Well and Septic System Investigation

Under a prior grant, a map was prepared identifying wells and septic systems in the adjacent area through the use of El Dorado County records and on-site surveys. A final report was prepared identifying the location of each well and septic system in relationship to the ditch alignment. See Attachment D.

Deliverables: Well and septic system report and map

Task 4 – Determine Pre-Project Water Accounting

One of the early tasks of this project is to estimate the water conservation component for the ditch segment. Flow was and will continue to be measured at the Forebay Reservoir diversion point (gage A18) and at the Reservoir 1 WTP inlet. The flow measurements are remotely monitored by SCADA, and logged at periodic intervals. All outflow connections along the three mile stretch are metered.
Baseline water delivery quantities and unaccounted-for water levels with in-ditch flow monitoring equipment and water balance calculations. This information coupled with post-project accounting will confirm actual versus estimated water savings.

4.1 Estimate potential water savings

4.2 Quantify existing ditch seepage through inflow/outflow data

4.3 Prepare water accounting report

Deliverable: Water Accounting Report

Task 5 – Engineering Plans

Under a separate grant, a Basis of Design Report is under preparation which will develop the design parameters that identify the piping methods, alignment, recommended materials for construction, and criteria for final design. This task involves developing environmental exhibits for environmental review documentation and permits based on the design parameters will be developed for use in the environmental phase of the work. Plans and specifications for bidding will be prepared based on the report.

5.1 Prepare Environmental Exhibits

5.2 Prepare 30% Plans

5.3 Prepare 50% Plans and Specifications

5.4 Prepare 90% Plans and Specifications

5.5 Prepare final bid documents

Deliverables: Environmental exhibits, 30% documents, 50% documents, 90% documents, and final bid documents

Phase 2 – Environmental Review/Permitting Process

A key measure of the success of the project will be achieved through the environmental review, permitting, and public outreach processes. The public, as well as applicable federal, state, and local resource and permitting agencies must be satisfied that all environmental constraints are being addressed to the maximum extent practicable while still accomplishing the stated project objectives. Therefore a significant effort must be and has already been dedicated to the environmental and public outreach activities. The resources to complete the environmental review are fully accounted for in the schedule and cost breakdown provided in this proposal.
Task 6 – Federal and State Environmental Review

Reclamation will be the lead federal agency for this project under the National Environmental Policy Act (NEPA). As such, the NEPA environmental review process will follow Reclamation’s most recent NEPA Handbook (February 2012 or its successor). In addition to the NEPA review requirement associated with funding of the federal action from Reclamation, a California Environmental Quality Act (CEQA) environmental review process must be completed by EID as the lead public agency within the state of California. This CEQA documentation will also be used, if necessary, by the resource agencies acting as CEQA responsible agencies when issuing their respective approvals and/or permits for the project. At this time it is anticipated that the environmental review process will be completed as a joint NEPA/CEQA document and will include combining NEPA/CEQA public review and meetings, as applicable.

As a federal undertaking, the project will also require compliance with other applicable federal regulations including, among others, Section 106 of the National Historic Preservation Act and Section 7 of the Endangered Species Act. Reclamation will act as the lead federal agency for these processes. However, EID will prepare the appropriate documentation on Reclamation’s behalf for review and approval given our extensive experience in completing these processes in support of Reclamation on previous projects as well as additional projects for the Federal Energy Regulatory Commission and U.S. Forest Service. To this end, under a separate grant EID has completed a full cultural resources evaluation of the project area including consultation with the Native American Heritage Commission. This report will facilitate completion of Task 7.1 below. Additionally, EID has also conducted a protocol-level habitat assessment for California red-legged frog, which determined this species has a low potential to occur on the project site. This assessment will facilitate completion of Task 7.2 below. Finally, EID has conducted a wetland delineation of the anticipated project area including likely staging areas, which determined that no jurisdictional waters will be affected by the project.

In addition to those regulations outlined above, EID will also work closely with Reclamation to address compliance with the following regulations for the Project consistent with the Reclamation NEPA Handbook: Clean Water Act, Clean Air Act, Fish and Wildlife Coordination Act, Magnuson-Stevens Fishery Conservation and Management Act, Migratory Bird Treaty Act, Indian Trust Assets, Indian Sacred Sites, Pollution Prevention, Environmental Justice, Executive orders, and other tribal, state, and local laws, rules, and regulations as they apply to the project. Based upon EID’s understanding of the environmental setting, it is not anticipated that additional detailed analysis will be required to demonstrate compliance with these regulations.

The following subtasks outline how EID will work with Reclamation to prepare a joint NEPA/CEQA document and conduct the appropriate public review and outreach processes.
These subtasks will also illustrate how the required technical studies and environmental consultations will be completed and how the anticipated permits will be obtained. Based upon EID’s understanding of the environmental setting, it is anticipated that the NEPA process will either be completed with an Environmental Assessment/Finding of No Significant Impact (EA/FONSI) or Environmental Impact Statement/Record of Decision (EIS/ROD) and the CEQA process will be completed with Initial Study/Negative Declaration (IS/ND) or an Environmental Impact Report/Notice of Determination (EIR/NOD). For the purposes of this scope of work it is assumed that Reclamation will prepare an EIS and EID will prepare an EIR for this project. However, the final determination will be made by Reclamation and EID, respectively, after each agency conducts its own independent analysis of the project in the EA/IS.

6.1 Environmental Assessment/Initial Study

EID will prepare a combined EA/IS of the proposed action to inform the public of potential environmental impacts associated with action. The EA/IS will identify potentially significant environmental effects that will be carried forward for further analysis in the EIS/EIR. Alternatives to the proposed action as well as the purpose and need of the action will be discussed to meet NEPA requirements. Additionally, in other locations where the NEPA and CEQA implementing regulations differ, the more conservative approach will be followed in the document to ensure the document’s legal defensibility. EID will provide an administrative draft of the EA/IS to Reclamation with adequate time for review and comment prior to public circulation by either agency as described below.

EID will maintain regular communication with Reclamation during preparation of the EA/IS to ensure a clear understanding of the scope of the analysis and level of detail, develop feasible and effective mitigation if appropriate, and maintain schedule. The following steps will be completed during this subtask: collect and review existing documentation; conduct project site inspection with Reclamation, if desired; prepare the NEPA/CEQA project description; prepare draft EA/IS checklist for review and comment; and prepare final EA/IS for public circulation.

**Deliverables:** Draft EA/IS, Final EA/IS

6.2 Technical Studies

**Cultural Resources Inventory and Evaluation**

Under a separate grant, EID retained a qualified archeologist meeting the Secretary of Interior’s standards to complete a full inventory and evaluation of all potential resources that may be present within the project area including: pedestrian survey, site recording, records search at the Northern California Information Center (NCIC), sacred lands search...
through the Native American Heritage Commission (NAHC), and outreach to groups and individuals identified by the NAHC, and evaluation for eligibility to National Register of Historic Places (NRHP) or the California Register of Historic Resources (CRHR). The evaluation included within this report determined that the only resource identified in the project area, the Main Ditch, does not meet the eligibility requirements for inclusion on either the NRHP and/or CRHR. The results of this evaluation will be incorporated into the EA/IS and Draft EIS/EIR.

**Deliverable:** Cultural resource inventory and evaluation report (complete). See Attachment M.

**Wetland Delineation**

Under a separate grant, EID retained a qualified and trained botanist to conduct a wetland delineation following the 1987 Corps of Engineers Wetlands Delineation Manual (USACE, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE, 2010). The delineation, which included the proposed pipeline alignment as well as all potential staging areas and appropriate buffers, determined that no jurisdictional waters will be affected by the project. Through an approved jurisdictional determination the Army Corps of Engineers Sacramento District Regulatory Program has verified the findings (SPK-2013-00049). The results of the delineation will be incorporated into the EA/IS and Draft EIS/EIR.

**Deliverable:** Wetland delineation of project area and approved jurisdictional determination (complete). See Attachment L.

**Botanical Survey**

Under this subtask a qualified botanist will survey the main ditch and potential staging areas to confirm the lack of potentially sensitive plant species as indicated by previous database searches and the plant species noted during the wetland delineation of the full project alignment and staging areas. This survey will be conducted at the appropriate time of spring during maximum bloom when the chances of detecting unanticipated species are greatest. The results of this survey will be incorporated into the EA/IS and the survey report will be included as a technical appendix to the Draft EIS/EIR.

**Deliverable:** Botanical survey report

**California Red-Legged Frog Habitat Assessment**

Under a separate grant, EID retained a qualified biologist to conduct a habitat assessment of the project area for California red-legged frog utilizing current United States Fish and Wildlife Service protocols (USFWS, August 2005). The habitat assessment found that
California red-legged frog has a low potential to occur on the project site. Potential nonbreeding aquatic habitat is located in and adjacent to the project area; however, because of the lack of suitable breeding habitat and the presence of dispersal barriers and isolation from known occurrences of the species, the project area is unlikely to support a permanent population of California red-legged frog. The results of this assessment will be incorporated into the EA/IS and the assessment will be included as a technical appendix to the Draft EIS/EIR.

Deliverable: California red-legged frog habitat assessment (complete). See Attachment N.

6.3 Notice of Preparation/Notice of Intent (NOP/NOI) and Public Scoping Meeting

EID will prepare draft and final public review materials for distribution/publication including but not limited to the NOP/NOI and the Federal Register notice. EID will consult with Reclamation during preparation of the NOP/NOI and incorporate comments from Reclamation into the draft materials and prepare final materials for EID’s and Reclamation’s respective noticing. EID will then distribute the NOP/NOI together with the EA/IS as appropriate consistent with each agency’s noticing requirements. EID and Reclamation (if desired) will then conduct a public scoping meeting within the 30-day NOP/NOI review period. To ensure a smooth initiation to the project, EID proposes to incorporate the assistance of a professional facilitator in the scoping meeting preparation and execution.

Deliverables: Draft NOP/NOI, Final NOP/NOI, public scoping meeting and materials, Federal Register preparation, and distribution of Final EA/IS and NOP/NOI

6.4 Draft EIS/EIR and Public Review Meeting

EID will prepare a draft EIS/EIR for public review. Initially, EID will prepare an administrative draft for review by Reclamation. EID will then incorporate all comments received from Reclamation on the administrative draft to ensure the draft EIS/EIR meets Reclamation standards and requirements for public circulation. EID will prepare the Notice of Completion (NOC) / Notice of Availability (NOA) for the Draft EIS/EIR and will deliver copies of the document together with the NOC to the State Clearinghouse to initiate the CEQA public review period. EID will also prepare hard and electronic copies of the joint document and the Federal Register notice to assist Reclamation with the NEPA public review. EID and Reclamation (if desired) will also hold a public review meeting during the review period to facilitate public input on the project.

Deliverables: Draft EIS/EIR, NOC/NOA, public review meeting and materials, Federal Register preparation, and distribution of draft EIS/EIR
6.5 Final EIS/EIR

Following close of the NEPA and CEQA public review periods, EID will sort and catalogue the comments received according to subject and then meet with Reclamation to review the comments and develop a general strategy for preparation of responses. EID will then prepare the Final EIS/EIR consisting of comments received on the Draft EIS/EIR and written responses; text edits, which will include: additions, corrections, and deletions made to the Draft EIS/EIR shown in strikeout and underline text; technical appendices; and Mitigation Monitoring and Reporting Plan (MMRP) for CEQA purposes. EID will also prepare a draft NEPA Environmental Commitments statement. All documents will be submitted to Reclamation for review to ensure all NEPA requirements are met.

**Deliverables:** Final EIS/EIR, MMRP, NEPA Environmental Commitments Statement

6.6 NEPA/CEQA Project Approval

Following completion of the Final EIS/EIR, EID will prepare a draft Record of Decision (ROD) for Reclamation’s review. EID will then prepare a final ROD for Reclamation signature and publishing as appropriate. EID will also prepare a Notice of Determination (NOD), which will be filed with the county clerk and State Clearinghouse following EID Board of Directors CEQA approval of the project.

**Deliverables:** Draft and Final ROD and NOD

**Task 7 – Environmental Consultations and Permitting**

This task includes the anticipated environmental consultations and permitting requirements associated with the project. As described in Task 6.2, this list has been streamlined due to the previously completed cultural resources evaluation, California red-legged frog habitat assessment, and wetland delineation. The cultural resources inventory and evaluation concluded that there are no resources meeting the NRHP and/or CRHR listing eligibility requirements within the project area. The California red-legged frog habitat assessment concluded this specie has a low potential to occur on the project site. Additionally, the wetland delineation recently completed in anticipation of this grant proposal submittal determined that no jurisdictional waters will be affected by the project.

7.1 NRHP/CRHR Evaluation, Section 106 NHPA, and Tribal Consultation

As the lead federal agency for the action, Reclamation will be required to comply with Section 106 of the National Historic Preservation Act (Section 106) regarding potential effects to listed or eligible properties for listing to the NRHP. EID maintains extensive experience in these evaluations due to the authority granted by the Federal Energy Regulatory Commission (FERC) for EID to consult with the State Historic Preservation
Officer (SHPO) for EID’s Hydroelectric Project 184 in addition to experience obtained through project requiring Reclamation or United States Forest Service approval. As such, this expertise will facilitate preparation of the necessary documentation for Reclamation to comply with Section 106.

As outlined under Task 6.2 above, under a previous grant EID conducted a thorough cultural resources inventory and evaluation for eligibility for listing of identified resources on the NRHP and CRHR. Upon Reclamation’s acceptance, these documents are ready to be submitted to the SHPO for concurrence.

Under this task, EID will also assist Reclamation in completing the tribal consultation required for the federal undertaking. In preparation for this grant proposal submittal, EID has already completed a cultural resources evaluation including submittal of a Sacred Lands Search request to the Native American Heritage Commission (NAHC). No sacred lands were identified within the project area. Letters were submitted to interested groups and individuals identified by the NAHC; no responses were received.

Deliverables: NCIC records search results, NAHC sacred lands search and letters, pedestrian survey report, completed SHPO site recordation forms, and eligibility evaluation report (all complete), as well as draft tribal consultation letters.

7.2 Section 7 ESA

As the lead federal agency for the action Reclamation will be required to comply with Section 7 of Endangered Species Act (ESA) regarding potential effects to threatened or endangered species as well as their designated critical habitat, if applicable. EID will utilize its extensive experience in preparation of biological assessments (BA) for water-related actions with Reclamation to prepare a BA for consultation with the U.S. Fish and Wildlife Service (USFWS) regarding potential effects of the project to listed species or their designated critical habitat. Given the location of the project and lack of potential for listed salmonids to be present in the project area, no consultation with National Marine Fisheries Service is proposed as part of the project. However, Reclamation will make the final determination whether a no effect determination is appropriate.

An administrative draft BA will be prepared for Reclamation review. Using those comments received on the administrative BA, EID will finalize the BA for Reclamation to provide to USFWS. Reclamation will transmit the final BA to USFWS and request concurrence. EID will assist Reclamation by providing any additional information USFWS requests to complete the consultation. Additionally, EID will maintain regular communication with its regular USFWS staffing contacts throughout the duration of the consultation to ensure timely review and evaluation of the BA. Given EID’s extensive experience with ESA consultation in this geographic area, it is anticipated that informal consultation will be appropriate and USFWS will issue a concurrence letter in lieu of a
biological opinion for the project.

**Deliverables:** Administrative draft BA, Final BA

### 7.3 Storm Water Pollution Prevention Plan (SWPPP)

Due to the amount of ground disturbance associated with the project, the District will apply to comply with the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities from the State Water Resources Control Board (Storm Water Pollution Prevention Plan or SWPPP).

**Deliverable:** Notice of Intent to comply with Permit 2009-0009 and SWPPP

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**Phase 3 – Construction**

**Task 8 – Bid Process and Contractor Selection**

This task will complete the bid process for obtaining a licensed engineering contractor to perform the work associated with construction of the project. Contractors will be screened through a pre-qualification process and solicited for bid. A pre-bid meeting will be held which will allow all potential bidders to view the project site and provide questions regarding the work. The lowest responsive responsible contractor bid will be recommended to the Board of Directors for award and a contract will be executed.

**Deliverable:** Executed construction contract

**Task 9 – Construction**

This task involves the construction of the project and the construction management and administration related activities. Construction Management activities include the following:

- **9.1 Conduct weekly construction meetings**
- **9.2 Review submittals and requests for information**
- **9.3 Approve construction change orders**
- **9.4 Oversee inspection work**
- **9.5 Periodic site visits**
- **9.6 Specialty inspections**

**Deliverable:** Weekly construction meetings, submittal review, RFI response, change order review, and completed construction project
Task 10 – Post-Project Monitoring and Water Accounting

At the end of construction, flow monitoring will be conducted between Forebay Reservoir and Reservoir I and compared to water losses before construction to determine the amount of water conserved. This final assessment will be memorialized along with a comprehensive report complete with picture documentation to assess the final success of the project.

This task will include post-project inspection and determination of actual water savings by comparing baseline delivery quantities and unaccounted-for water levels with actual water savings resulting from the project. All newly constructed pipe and piping will be monitored for leakage and water quality at the inlet/outlet of the structure. Water quality parameters at the water treatment plant will be compared with pre-project data.

10.1 Calculate post-project benefits

10.2 Review water quality data

10.3 Conduct water flow measurements

10.4 Prepare post-project report

Deliverables: Post-project report describing the post-project benefits and water quality and quantity outcomes
Evaluation Criteria

Evaluation Criterion A: Water Conservation

Subcriterion No. A.1 - Water Conservation

Because this project is piping of an earthen canal and has quantifiable and sustained water savings and improves water management, responses to Subcriterion No. A.1(a) and A.1(b) are provided.

Subcriterion No. A.1(a) – Quantifiable Water Savings

As a direct result of piping of the Main Ditch, conservation of approximately 1,300 ac-ft of raw water annually can then be used for consumptive purposes at the Reservoir 1 water treatment plant (WTP), to generate renewable hydroelectric energy at the El Dorado Powerhouse, and later to offset the need for new supplies to meet projected growth.

Estimates of water losses were performed in 1977 during the preparation of an Environmental Impact Report for the Main Ditch. Losses have been quantified during the summer months 5% based on SCADA readings and weir measurements since then. Please see Figure 6 for details on the water loss field measurements performed.

The 5-year average annual supply from this water source is 11,500 ac-ft delivered to the Reservoir 1 WTP. This facility treats water diverted from the South Fork American River via Forebay Reservoir and supplies up to 26 mgd of potable water to customers throughout the service area. Because of this integrated water system network, water from the Reservoir 1 WTP can be supplied down to the El Dorado Hills area, which can also be served by water diverted from the Reclamation Folsom Reservoir. A map of the water system is provided as Figure 3.

(1) Canal Lining/Piping

This Main Ditch piping project will result in water savings by elimination of current ditch seepage and evapotranspiration. The estimated average annual water savings that will result from the project has been determined to be 1,300 ac-ft annually (see discussion above). The expected post-project losses are expected to be near zero, since the entire open unlined earthen ditch will be piped as a closed system.

Under full annual diversion of 15,080 ac-ft, annual losses are estimated at 430 ac-ft per mile. Actual ditch flows will continue to be measured using SCADA readings to compare beginning and end point diversion amounts. It is estimated that piping will
be constructed using 36 or 42-inch diameter HDPE pipe.

Turbidity, total coliform, and E-coli were measured at the diversion and 3-miles downstream at the inflow to the Reservoir 1 WTP. The measurements show the trend of decreased water quality along the 3-mile stretch before entering the WTP. See Figures 7 – 9.

(4) **SCADA and Automation**

SCADA and automation components will be included in the design and construction of the project to measure water quality and amount delivered. This measurement system will allow confirmation of the water savings actually received at completion of the project construction. Current operational losses have been determined using gages and will be reduced to zero, as no seepage or evaporation will occur with installation of the pipe.

The SCADA automation will allow flow and water quality measurements to be captured and logged into the database system or be viewed by operations staff in real-time. Real-time data allows operations to respond to issues or changes in the system quickly, thereby maintaining water supply and quality to our customers.

**Subcriterion No. A.1(b) – Improved Water Management**

The amount of water better managed will be approximately 1,300 ac-ft annually or about 9%.

\[
\text{1,300 ac-ft Annual Estimated Better Managed} \\
\text{15,080 ac-ft Average Annual Water Supply}
\]

**Subcriterion No. A.2 – Percentage of Total Supply**

The percentage of total water supply conserved is estimated to be 9% when the total water supply is used annually.

\[
\text{1,300 ac-ft Annual Estimated Amount of Water Conserved} \\
\text{15,080 ac-ft Average Annual Water Supply}
\]
Subcriterion No. A.3 – Reasonableness of Costs

The total project cost is estimated at $5,100,000, with 1,300 annual acre-feet conserved and better managed, and the expected life of the improvement is 100 years based on the industry accepted life-expectancy of HDPE pipe with proper installation and maintenance. This calculates to a 40.7 ratio.

\[
\frac{\text{\$5,100,000 Total Project Cost}}{1,300 \text{ Acre-Feet Conserved and Better Managed} \times 100 \text{ years improvement Life}}
\]

Evaluation Criterion B: Energy-Water Nexus

Subcriterion No. B.1 – Implementing Renewable Energy Projects Related to Water Management and Delivery

The capacity of the existing El Dorado Powerhouse is 21 MW of renewable hydroelectric energy as identified in the current license for the El Dorado FERC Project 184 (Project 184).

The amount of energy that can be generated by the water conserved is equal to 785 Megawatt-hour (MWhr) annually. This calculation is based on the efficiency rating of the El Dorado Powerhouse of 0.6 ac-ft/MWhr and 1,300 ac-ft of conserved water. This is enough energy to serve more than 100 households with certified renewable energy. The hydroelectric power generated at the El Dorado Powerhouse is sold under contract to PG&E and will assist them in meeting the State of California mandate of holding an energy portfolio that includes 33% renewable energy by the year 2020.

All water that passes through the El Dorado Powerhouse is sent back into the South Fork American River, eventually entering Folsom Reservoir. No water consumption is necessary for the production of the certified renewable energy. Figure 5 depicts the flow of water through the system, which eventually returns to Folsom Reservoir, a Reclamation facility.

In-conduit hydropower can be installed in pressurized pipelines that carry water when the head and pressure is sufficient. During design, the installation of an in-conduit hydropower generating turbine will be evaluated that would qualify as small hydro without the need for a dam, reservoir, or new water diversion. Conduit projects are efficient, cost-effective and environmentally friendly, as they are able to generate electricity from existing water flows with infrastructure already in place or with new construction with a small increase in capital investment. The installed system could have the ability to generate 100 – 200 kW.
Subcriterion No. B.2 – Increasing Energy Efficiency in Water Management

Energy efficiencies that are expected to result from implementation of the project include reduced pumping needs. Current operations require water to be pumped from Reservoir A WTP at a cost of $150 per ac-ft and from Folsom Reservoir at a cost of more than $200 per ac-ft. Either or both of these pumping needs can be greatly reduced or eliminated through the conservation of 1,300 ac-ft annually.

Because the integrated water system, as described previously, can provide gravity water to El Dorado Hills, the 1,300 ac-ft of water can be delivered by gravity rather than pumping from Folsom Reservoir. The cost to treat the water is essentially the same at either WTP; therefore, reduced pumping will save over $250,000 annually in electrical costs.

Evaluation Criterion C: Benefits to Endangered Species

The project is not anticipated to have any adverse effects on federally listed or candidate species or their designated critical habitat. California red-legged frog is the only listed or candidate species known to be present near the project area (although within another subwatershed) and there is no suitable breeding habitat for this species present within the project area as described above. In the event an unanticipated discovery of a federally listed or candidate species occurs during the environmental review for this project or critical habitat is designated, EID will identify how the project may benefit the species and/or its critical habitat. Conversely, if the project has the potential to negatively affect such species of their critical habitat, EID will determine how modifications to the project design could reduce or eliminate this potential should it exist. Analysis of either such modification would be included within the BA. However, since the project will not affect any relatively permanent water source, which is needed for California red-legged frog, no effects to endangered species are anticipated as a result of the project.

Given that the project will result in an additional 1,300 acre-feet annually that will be released back to the South Fork American River, the project will have a beneficial effect to listed and/or candidate species that may be present outside of the project area, but within the South Fork American River and lower American River. At this time the only listed species known to be present in the lower American River is the Central Valley Steelhead Distinct Population Segment, Central Valley Fall and Late Fall Run Chinook Salmon Evolutionary Significant Unit is currently designated as a Species of Concern. Both of these species will benefit from additional conserved water that will be available in the lower American River. No listed or candidate species are known to be present within the South Fork American River upstream of Folsom Dam.
Evaluation Criterion D: Water Marketing

The water saved through piping of the Main Ditch is a Pre-1914 water right and therefore solely owned by the District. This allows great flexibility in use or marketing of the water. Although no plans are currently in place to market the water to others, the District will use the water itself for renewable energy production or potable consumption.

Because the water is owned by the District, there are no restrictions under Reclamation law or contracts, individual project authorities, or State water laws to prevent marketing the water in the future.

Evaluation Criterion E: Other Contributions to Water Supply Sustainability

1) The proposed WaterSMART Grant project may address an adoption strategy identified in a completed WaterSMART Basin Study.

In 2012, Reclamation funded a 50/50 cost share with the non-Federal Partners for the Sacramento-San Joaquin Basin Study with a total of $2.4 million dollars. The Sacramento-San Joaquin River Basin Study is a partnership between the California Department of Water Resources, California Partnership for the San Joaquin Valley, Stockton East Water District, El Dorado County Water Agency, the Madera County Resources Management Agency and the Bureau of Reclamation. Utilizing broad partner and stakeholder involvement, the Basin Study will recommend adaptation strategies in response to climate change.

The Sacramento-San Joaquin Rivers Basin Study encompasses the entire Central Valley of California with an area of more than 22,500 square miles from the Tehachapi Range in the South to the Klamath Mountains in the north. The study area covers extensive areas of national forests, parks and wildlife refuges, irrigated agricultural lands, and many rapidly growing urban areas. The Sacramento-San Joaquin Rivers Basin Study will assess potential climate change impacts to the Basin’s water supplies and demands and will specifically evaluate potential changes to agriculture and urban water supplies, flood control, hydropower generation, recreation, fisheries, wildlife and their habitats, water quality and water-dependent ecological systems. Where negative impacts are found, the Study will identify mitigation or adaptation strategies to address these impacts. The Study will involve a broad spectrum of stakeholders from throughout the Sacramento and San Joaquin basins including agriculture interests, City and County water agencies, water user associations and environmental interests. The Study will also explore potential opportunities for collaboration with the San Joaquin River Restoration Program which was identified as one of two top priorities in California in the America’s Great Outdoors 2011 50-State Report.

Once this Basin Study is completed, the Main Ditch Piping project can be assessed to determine its ability to address specific adoption strategies identified in the Plan.
(1) The project will make water available to address other concerns as discussed below.

This project has benefits not only in the conservation of water for potable uses, but allows greater flexibility for supplying water to existing customers in the District during water short years. By reducing conveyance losses in the Main Ditch, water is conserved in the upper Sierra Lakes that is therefore a benefit to the environment.

By piping the Main Ditch there will also be a water quality benefit due to the reduction in potential for infiltration from adjacent residential septic system leach fields and surface water runoff inflow. Reductions in water losses over time translate into the more efficient use of water and the reduction in the need for additional water supplies. The beneficiary will be the South Fork of the American River system that eventually benefits the Bay/Delta. Reductions in water demands over time translate into the more efficient use of water and the need for less water. The beneficiary will be the South Fork of the American River system that eventually benefits the Bay/Delta.

(2) The proposed project will not help to expedite future on-farm irrigation improvements.

(3) The project will promote and encourage collaboration among parties as discussed below.

The purpose of the project to pipe the Main Ditch is to conserve and use water more efficiently and effectively, improve water quality, increase the use of renewable energy, improve energy efficiency, and assist in preventing water-related crises. The project will result in a quantifiable water savings of about 1,300 ac-ft annually with improved water management through improved raw water quality and reduced need to acquire new water supplies. Letters of support from the El Dorado County Water Agency and the El Dorado County Citizens for Water are provided as Attachments E and F.

The water delivery system in the region conveys raw water from surface water sources to water treatment plants for domestic use and/or provides the distribution mechanism for supplying raw water for irrigation and agricultural purposes. In many cases, these earthen ditches and open ditches are the sole source of drinking water supply for thousands of customers in El Dorado, Nevada, and Placer counties. They are in varying states of repair and provide differing levels of reliability. The water agencies in the region have invested millions of dollars in the maintenance of the historic conveyance system to meet growing demands on water supply, and improving these facilities is essential for the continued delivery of water in an effective and efficient manner. Therefore, piping of the Main Ditch has been included as a project in the Cosumnes, American, Bear, and Yuba and Regional Water Authority Integrated Regional Water Management Plans.

The project will assist in meeting CALFED Bay-Delta Program Goals, through reducing existing irrecoverable losses through excessive seepage of earthen ditches and
Evapotranspiration from open ditches, optimizing the efficient use of water to supply, promoting the local conservation of water supply to serve the needs of local consumers, with availability to sell water to meet growing demands for domestic and raw water use, and increasing the efficiency of water supply to customers.

The project will serve as an example of water and energy conservation and efficiency within El Dorado County for other mountain counties who have similar open unlined earthen ditches and power generation facilities. Performance can be measured in the future by other ditch piping projects that are inspired to go forth after construction of the Main Ditch piping.

**Evaluation Criterion F: Implementation and Results**

**Subcriterion No. F.1 – Project Planning**

The project supports the District’s 2013 Integrated Water Resources Master Plan, Water Conservation Program, Drought Contingency Plan, Urban Water Management Plan, Five-Year Water Management Plan, and Ditch System Master Plan that are currently in-place. A copy of each is provided as Attachments G-K.

The CABY Integrated Water Resources Master Plan has identified several mountain county ditches that can benefit from a project such as this and has included it as a supporting project in the Plan. Piping of the Main Ditch also provides the means for the District to meet the State of California goal of 20% water conservation by 2020 and the energy goal of 33% renewable energy production by 2020.

**Subcriterion No. F.2 – Readiness to Proceed**

The project is ready to proceed; a well and septic system proximity evaluation, wetlands delineation, California red-legged frog habitat assessment and cultural resources survey and evaluation were previously completed under a separate grant from the El Dorado County Water Agency. An estimated project schedule outlining the individual tasks of each phase is provided as Figure 10. The schedule shows that the project can be completed over a three-year period while meeting all requirements for design and environmental compliance activities before construction begins.

Because the project is within an existing water system and the El Dorado Powerhouse is a FERC licensed certified renewable energy producer, no new permits are needed other than environmental permits which are described in detail in the Environmental Compliance discussion and the time-line for each is outlined in the project schedule. If in-conduit hydropower is installed with the project, the newly adopted FERC exemption from licensing process will allow exemption from the requirements of Part I of the Federal Power Act.
Subcriterion No. F.3 – Performance Measures

The performance measures that will be used to quantify actual benefits upon completion of the project include quantifiable water saved and better managed, increased water quality, increased renewable energy production, and energy savings. Each is described in detail in the Performance Measures section.

Evaluation Criterion G: Additional Non-Federal Funding

Non-federal funding will be provided for the project in the amount of $4,100,000. Therefore the percentage of non-Federal funding provided is 80%.

\[
\begin{align*}
$4,100,000 & \text{ Non-Federal Funding} \\
$5,100,000 & \text{ Total Project Cost}
\end{align*}
\]

Evaluation Criterion H: Connection to Reclamation Project Activities

(1) This project is connected to Reclamation project activities such that water not diverted to the Reservoir 1 WTP can be left or returned to the South Fork American River, after use for renewable power generation, which eventually returns to Folsom Reservoir.


(3) The Project is not located on Reclamation project lands or involve Reclamation facilities.

(4) The project is in the South Fork of the American River basin which is the same basin as Folsom Reservoir.

(5) The proposed work could contribute water to Folsom Reservoir which is a Reclamation project by leaving or returning water to the South Fork of the American River.
Performance Measures

Performance Measure No. A. – Projects with Quantifiable Water Savings

Performance Measure No. A.1. – Canal Lining/Piping

Piping of the Main Ditch will lead to a decrease in ditch seepage and evapotranspiration. Implementation of the following performance measures will provide quantifiable data to verify the amount of water lost due to seepage and evapotranspiration (pre-project) and the total amount of water saved (post-project).

Pre-project estimations of baseline data:

Physical measurements of losses have been made prior to construction of the project to determine current losses in the Main Ditch. Upon receipt of confirmation from the Reclamation that the District will be a recipient of funding under the WaterSMART grant, the District will formalize compiling flow measurements at the Forebay Reservoir diversion to the Main Ditch. At the same time, the District will compile the data of the water made available at the downstream end of the Main Ditch as it enters Reservoir 1. Gages, weirs, and SCADA will be used to capture flow data.

Points along the ditch may also be selected to determine which reaches are the most vulnerable to seepage and evapotranspiration. Estimated historical flow measurements will also be collected and compiled for comparison to actual measurements. By beginning the measurement at the onset of the project, more than 2 years of data can be collected for comparison to post-project flows.

Post-project methods for quantifying the benefits of canal piping or piping projects:

Using tests listed above, compare pre-project and post-project test results to calculate water savings. Because this is a ditch piping project, evaporation will be calculated based on weather data available at the Camino CIMIS Station and subtracted from the total loss measured by testing.

As a back check, the estimated historical seepage and evaporation for the Main Ditch will be compared to the post-project seepage and evaporation with documentation of the method of measuring or estimating post-project provided. Results will be verified using a ratio of historical diversion-delivery rates and will include a comparison of historical ditch efficiencies and current ditch efficiencies. The output indicator will be a conservation of approximately 1,000 – 1,300 ac-ft annually after ditch improvements as measured by gages, weirs, SCADA system, and manual measuring at inflow and outflow points.
Performance Measure No. A.2. – Measuring Devices

Measuring Devices: a. Municipal Metering

Three raw water customers are served along the Main Ditch prior to the water treatment plant. Customer use is currently measured in miner’s inches using a V-notch weir with ditch operators manually turning service on and off. Once piping has been completed, these customers will be served by new individual meters equipped with automatic read devices.

The newly installed meters will allow for accurate reliable water accounting and billing rather than using archaic assumed flows with manual operation. The previously assumed deliveries will be compared to the meter reads to determine actual amount of water delivered.

Performance Measure No. A.3. – SCADA and Geographic Information Systems

Along with the installation of pipe within the open earthen ditch, the existing SCADA system that monitors flows in the Main Ditch will be expanded to provide real-time data on the flow and volume of water at key points along the water delivery system. Access to such data will allow the District to make accurate and timely deliveries of water and reduce over-deliveries.

SCADA and automation components will be included in the design and construction of the project to measure water delivered. This measurement system will allow confirmation of the water savings actually received at completion of the project construction. Current operational losses have been determined using weirs and gages and will be reduced to zero, as no seepage or evaporation will occur with installation of the pipe.

The SCADA implementation will differ from pre-project operations through the installation of additional gages along the ditch and providing improved data availability to operations personnel.

The District currently employs SCADA system technicians who will perform regular preventive maintenance and calibration of the system to maintain reliable data gathering. This additional SCADA component will allow improved response to unanticipated events and enhance productivity of human resources. Response to SCADA failures/outages will continue to be made by on-staff SCADA technicians and on-call personnel after hours.

Pre-project estimations of baseline data:

Baseline data will include the data collected on diversions and deliveries to water users, making estimates as necessary and document employee pre-project time spent on ditch/ditch monitoring and water control.
Post-project methods for quantifying benefits of SCADA or SCADA/GIS system projects:

Track and record the diversions to water users and compare to pre-project diversions using meter data and SCADA data. This will show results of improved management if yearly fluctuations in weather are accounted for. Other benefits such as less mileage by operators on dusty roads (which saves time and influences air quality) and less damage to ditch banks will be tracked in the District maintenance tracking system. Reduced maintenance requirements will be achieved due to elimination of pest and vegetation management needs along the ditch banks.

Performance Measure No. A.4. – Automation

Not Applicable

Performance Measure No. A.5. – Groundwater Recharge (Conjunctive Use)

Not Applicable

Performance Measure No. A.6. – Irrigation Drainage Reuse Projects

Not Applicable

Performance Measure No. A.7. – Landscape Irrigation Measures

Not Applicable

Performance Measure No. B. – Projects with Quantifiable Energy Savings

The piping of the Main Ditch will increase the availability of renewable energy and increase overall energy efficiency in the management and delivery of water through making more water available for renewable power generation and reducing pumping. Energy efficiencies that are expected to result from implementation of the project include reduced pumping needs. Current operations require water to be pumped from Reservoir A WTP and from Folsom Reservoir. Either or both of these pumping needs can be greatly reduced or eliminated and because the water system is integrated, the 1,300 ac-ft of water can be delivered by gravity rather than pumping from Folsom Reservoir.

Performance Measure No. B.1. – Implementation of Renewable Energy Improvements Related to Water Management and Delivery

In-conduit hydropower can be installed in pressurized pipelines that carry water when the head and pressure is sufficient. During design, the installation of an in-conduit hydropower
generating turbine will be evaluated that would qualify as small hydro without the need for a dam, reservoir, or new water diversion. Conduit projects are efficient, cost-effective and environmentally friendly, as they are able to generate electricity from existing water flows with infrastructure already in place or with new construction with a small increase in capital investment. The installed system could have the ability to generate 100 - 200 kW.

The water conserved through piping the Main Ditch can be used for renewable hydroelectric power generation at the existing El Dorado Powerhouse until such time as the water is needed for consumptive purposes. Buildout of the area is not expected for several decades and therefore, the water can be used for renewable energy production until that time. Until the water is delivered to customers, the amount of energy that can be generated by the 1,300 ac-ft of water conserved is equal to 785 MWhr annually if diverted to the El Dorado Powerhouse. This calculation is based on the efficiency rating of the El Dorado Powerhouse at 0.60 ac-ft/ MWhr and 1,300 ac-ft of conserved water. This is enough energy to serve over 100 households with certified renewable energy. The hydroelectric power generated at the El Dorado Powerhouse is currently sold under contract to PG&E and will assist them in meeting the State of California mandate of holding an energy portfolio that includes 33% renewable energy. After power generation, the water is released to the South Fork of the American River, eventually reaching Folsom Reservoir, a Reclamation facility.

The water used for renewable power generation rather than being lost through seepage and evapotranspiration will be measured and the local economic impacts will be assessed through the income provided by the power generation revenue.

Performance Measure No. B.2. – Increasing Energy Efficiency in Water Management

If water is served to customers by gravity rather than pumped from Reservoir A WTP at a cost of $150 per ac-ft or Folsom Reservoir at a cost of more than $200 per ac-ft, pumping needs can be greatly reduced or eliminated through the conservation of 1,300 ac-ft annually. The cost to treat the water is essentially the same at either WTP; therefore, reduced pumping will save over $250,000 annually in electrical costs.

Performance Measure No. C. – Projects that Benefit Endangered Species and/or Critical Habitat

The project is not anticipated to have any effect on federally listed or candidate species or their designated critical habitat. California red-legged frog is the only listed or candidate species known to be present near the project area (although within another subwatershed) and there is no suitable breeding habitat for this species present within the project area. In the event of an unanticipated discovery of a federally listed or candidate species occurs during the environmental review for this project or critical habitat is designated, EID will
identify how the project may benefit the species and/or its critical habitat. Conversely, if the project has the potential to negatively affect such species of their critical habitat, EID will determine how modifications to the project design could reduce or eliminate this potential should it exist. However, since the project will not affect any relatively permanent water source, which is needed for California red-legged frog, no effect to endangered species are anticipated as a result of the project.

Given that the project will result in an additional 1,300 acre-feet annually to be released back to the South Fork American River, the project will have a beneficial effect to listed and/or candidate species that may be present outside of the action area, but within in the South Fork American River and lower American River. At this time the only listed species known to be present in the lower American River is the Central Valley Steelhead Distinct Population Segment, Central Valley Fall and Late Fall Run Chinook Salmon Evolutionary Significant Unit is currently designated as a Species of Concern. Both of these species will benefit from additional conserved water that will be available in the lower American River. No listed or candidate species are known to be present within the South Fork American River upstream of Folsom Dam.

Performance Measure No. D. – Projects that Establish a Water Market

The water saved through piping of the Main Ditch is a Pre-1914 water right and therefore solely owned by the District. This allows great flexibility in use or marketing of the water. Although no plans are currently in place to market the water to others, the District will use the water itself for renewable energy production or potable consumption.

Because the water is owned by the District, there are no restrictions under Reclamation law or contracts, individual project authorities, or State water laws to prevent marketing the water in the future on a temporary or long-term transfer to another, by sale, lease, or other form of exchange, as allowed under State laws.

Performance Measure No. D.1. – Groundwater Substitution Transfers
Not Applicable

Performance Measure No. D.2. – Crop Shifting or Idling Transfers
Not Applicable

Performance Measure No. D.3. – Other Transfers
Not Applicable
Environmental and Cultural Resources Compliance

To allow Reclamation to assess the probable environmental impacts and costs associated with this Grant application, the following list of questions has been answered to the best of EID’s ability based upon performance of many similar projects and the level of project information known at this time. Because this is a Funding Group II project, answers provided pertain to the entire project. If the District is successful in receiving this Grant, no ground-disturbing activities will begin before all applicable environmental compliance requirements are complete and the work is authorized by Reclamation. Environmental compliance has been integrated in the cost and schedule of the grant proposal.

(1) Will the project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)?

Construction of the project will require preparation of the pipeline alignment. Such activities may including grading the existing ditch alignment for proper grade, compaction of the pipeline trench to meet current engineering standards, installation of proper pipeline bedding, and backfilling and compaction of the pipeline trench according to accepted engineering standards. Construction activities will also require staging of materials and equipment to perform these duties. Staging is anticipated to occur at existing District facilities along the upstream (El Dorado Forebay) and/or downstream (Reservoir 1 Water Treatment Plant) end of the project and other non-sensitive nearby areas. Each of these areas has already been assessed for cultural resources and potentially jurisdictional waters as described above in the Scope of Work and no sensitive resources were identified. Operation of the project will only require minimal maintenance of large woody vegetation to prevent damage to the pipeline. Regular maintenance activities associated with debris clearing in the ditch and herbaceous vegetation will no longer be necessary.

During construction of the project there could be temporary air and water quality impacts associated with installation of the pipeline and appurtenances. However, based upon the nature of the activities it is anticipated that these impacts can be mitigated utilizing standard best management practices associated with emissions and dust and erosion control for underground linear features such as pipelines. During operation of the project there will be less air and water quality impacts than baseline conditions because ditch clearing and maintenance activities such as vegetation clearing will no longer be necessary, regular patrols of the ditch would no longer be necessary, and the water within the pipeline will be protected against potential water quality impacts as described in this grant submittal.

Marginal wildlife habitat exists surrounding the project. Given that the ditch is regularly dewatered for maintenance activities, there is no permanent source of water present. Additionally, herbaceous vegetation is regularly maintained to avoid obstructions of flow and facilitate inspections for the presence of burrowing rodents that could compromise the
integrity and cause a failure of the ditch embankment. From its upstream to downstream terminus the ditch winds through coniferous overstory in a rural residential neighborhood. There are a few ephemeral stream channels that intersect the ditch along its length, but none are diverted into the ditch. Therefore, potential impacts to wildlife and migration routes are anticipated to be low and temporary in nature. The loss of a temporary water source during the diversion season is not considered significant since there are unaffected natural water sources (e.g., springs and small streams) and the El Dorado Forebay present in the area.

Given the type of vegetation present, raptors and other migratory birds have the potential to occur within the project area. Appropriate mitigation measures will be implemented including pre-construction surveys, exclusion areas, and modified construction schedule if necessary to avoid impacts to nesting raptors and migratory birds. The project occurs approximately one-third to one-half mile north of designated critical habitat for the California red-legged frog. However, the critical habitat is located in a different watershed and is separated by a four lane highway (Highway 50). Additionally, a California red-legged frog habitat assessment determined that no breeding habitat existing within the Project area. Therefore, California red-legged frog are not anticipated to be affected by the project (see Phase 2 Task 6.2 of the Scope of Work for more details).

Construction activities will generate temporary sources of noise and traffic. The highest level of noise and traffic will be anticipated at the staging area(s), which is (are) existing EID facilities and other biologically non-sensitive areas in direct proximity to the proposed pipeline alignment. Some noise and traffic will also occur along the pipeline alignment as construction progresses. However, given the nature of the project along with a standard daytime construction limitation, these impacts are not anticipated to be significant. Appropriate traffic control measures will be implemented at any road crossings or equipment access points from county roads.

Construction will be timed to avoid any loss of water service or fire suppression capability to the surrounding community. Although the artificial water source of the canal is considered an aesthetic amenity to some, the facility is not an authorized recreational feature. The nearby El Dorado Forebay does have a designated day use recreational area and the Sly Park Recreation Area south of Highway 50 has many types of recreational opportunities.

(2) Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

As indicated above, the project site is located north of designated critical habitat for California red-legged frog. A previous survey of the Project area found that no suitable breeding habitat for red-legged frog was present. No other listed or proposed to be federally-listed species or designated critical habitat is present within the project area.
Given that the project will result in an additional 1,300 acre-feet annually to be released back to the South Fork American River, the project will have a beneficial effect to listed and/or candidate species that may be present outside of the action area, but within in the South Fork American River and lower American River downstream of the project area. At this time the only listed species known to be present in the lower American River is the Central Valley Steelhead Distinct Population Segment, Central Valley Fall and Late Fall Run Chinook Salmon Evolutionary Significant Unit is currently designated as a Species of Concern. Both of these species will benefit from additional conserved water that will be available in the lower American River. No listed or candidate species are known to be present within the South Fork American River upstream of Folsom Dam.

(3) Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "waters of the United States?" If so, please describe and estimate any impacts the project may have.

Based upon a wetland delineation performed by a qualified botanist, there are no wetlands or other surface water inside the project boundaries that fall under CWA jurisdiction as waters of the U.S (Attachment L). Through an approved jurisdictional determination the Army Corps of Engineers Sacramento District Regulatory Program has verified the findings (SPK-2013-00049). The ditch is not considered a Water of the U.S. because it has no downstream connectivity to Waters of the U.S. – all water in the ditch enters the Reservoir 1 Water Treatment Plant for treatment and domestic consumption.

(4) When was the water delivery system constructed?

The Main Ditch was originally constructed in the 1880’s.

(5) Will the project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

Piping of the Main Ditch will involve the conversion of an earthen lined opened ditch to a piped system. This conversion will require modification of the Forebay outlet works to the ditch and Reservoir 1 WTP inlet as described within the scope of work. The Forebay outlet works were likely constructed at the time of the Forebay completion, which was 1922. The Reservoir 1 WTP inlet was re-constructed in 1988. However, as stated previously a recently completed cultural resources evaluation found that the ditch as its associated appurtenances are not eligible for the NRHP or CRHR.
(6) Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

Given the rich history of the area associated with the gold mining era, there are a number of facilities within the District boundaries that have been determined to be or may be eligible for listing under the National Register. However, none of these facilities are anticipated to be affected by the project. There is one ditch, Crawford Ditch, within the irrigation district that is listed on the National Register of Historic Places (NRHP). However this ditch is located in a different watershed and is not connected and has no interaction with the Main Ditch.

Under a separate grant EID retained a qualified archeologist meeting the Secretary of Interior’s standards to complete a thorough cultural resources investigation of the project. This investigation included an evaluation of this section of the Main Ditch for the NRHP and CRHR, which determined that although this section of ditch (referred to as El Dorado Canal CA-ELD-511H/P-9-599) appears to follow its original alignment and continues to be used as originally designed, the integrity of setting, feeling, association, design, materials, and workmanship of the canal are compromised. Consequently, the archeologist concluded that CA-ELD-511H/P-9-599 does not meet the eligibility criteria for inclusion on the NRHP or CRHR (Attachment M). As such, the archeologist determined that a “No Historic Properties Affected” appears appropriate for the project under NRHP and the project would not impact any historical resources as defined by CEQA. This report is ready to be transmitted to the SHPO for concurrence that the project will not impact any eligible properties following Reclamation’s determination that the report meets all applicable standards.

(7) Are there any known archeological sites in the proposed project area?

There are no known archeological sites in the proposed project area. A sacred lands search and a list of Native American contacts for the project were requested from the Native American Heritage Commission (NAHC). The sacred lands search did not identify any sensitive Native American cultural resources either within or near the project’s area of potential effect (APE). Letters soliciting information regarding the project area were sent to all the groups and individuals identified by the NAHC as part of the sacred lands search. No responses were received.

(8) Will the project have a disproportionately high and adverse effect on low income or minority populations?

No, the project will not have a disproportionately high and adverse effect on low income or minority populations.
(9) **Will the project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?**

No, the project does not limit access to any lands including access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands.

(10) **Will the project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?**

No, the project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area. During construction the contractor will be responsible for complying with all applicable local regulations regarding the spread, control, and removal of noxious weeds. Operation of the project following construction will decrease this potential by eliminating the open ditch as a potential source of seed dispersal through passive means such as water, human, and wildlife transport, as well as decreasing the amount of maintenance, which has potential to introduce seed through foot and equipment traffic.
Required Permits or Approvals

There are no other permits or approvals required for the project other than those discussed in the Environmental Compliance Requirements section. As stated above, EID has already completed a wetland delineation, California red-legged frog habitat assessment, and cultural resources evaluation to eliminate three potentially significant environmental constraints that could be associated with building the proposed project. Completion of these studies through a separate grant has significantly reduced the complexity of this project. No ground disturbing work will begin until CEQA and NEPA compliance have been met and Reclamation approval has been granted.

Letters of Project Support

The Project is supported by the El Dorado County Water Agency (EDCWA) and the El Dorado County Citizens for Water. Copies of each letter of support are provided as Attachments E and F. In addition to the letters of support the EDCWA also committed $40,000 in 2012 and $192,000 in 2013 through a grant to assist with funding the environmental studies, preliminary design, and land survey for the Main Ditch Piping project. The work performed under those grant opportunities have been incorporated into this Proposal.

Official Resolution

At the January 13, 2014 El Dorado Irrigation District Board of Directors meeting, an official resolution was adopted. The resolution commits the District to the financial and legal obligations associated with receipt of WaterSMART Grant financial assistance, verifying:

- The identity of the official with legal authority to enter into an agreement
- The Board of Directors have reviewed and support the application submitted
- The District capability to provide the amount of funding specified in the funding plan, and
- That the District will work with Reclamation to meet established deadlines for entering into a cooperative agreement

The official resolution is submitted with this proposal as Attachment O.
Project Budget

General Requirements

The District will fund, or seek other grant opportunities to fund all costs in excess of the $1.0 million being requested through this Grant. Costs and expenses will be monitored by the Grant PM and all contracts will be competitively bid to assure adherence to public contracting codes and District Board policies and administrative regulations. The District financial system will be utilized for maintaining accounting information on expenditures and reporting requirements. All records and documentation regarding the Grant will be recorded and kept by the District Records Management Division.

Because the Main Ditch project is a larger, on-the-ground project that will take 3 years to complete, it will be conducted in a three-phase approach, as follows:

- Phase 1 – Design
- Phase 2 – Environmental Review/Permitting Process
- Phase 3 – Construction

Each phase of the project is expected to be substantially complete within the timeframes outlined in the schedule provided as Figure 10 and funding of up to $333,000 will be requested annually, for a period of up to 3 years.

Funding Plan and Letters of Commitment

The non-Reclamation share of project costs will be provided by the District through its Capital Improvement Plan (CIP). Annually, the District develops the five-year CIP which identifies projects over the upcoming 5 years. The Main Ditch is a Funding Group II project and has been identified in the 2014 – 2018 CIP which is provided as Attachment P.

Contributions to the District cost share will be made annually through the CIP process and funding occurs thereafter. No costs incurred before the anticipated project start date are included in the project costs. There are no funding partners for this project, and therefore no letters of commitment are provided.

At this time, there are no funds requested or received from other Federal partners for this project. There are no pending funding requests that have not yet been approved, and therefore no effect to the project funding. Table 1 summarizes the non-Federal and Federal funding sources. There are no in-kind contributions and the total Federal funding (Reclamation and all other Federal sources) does not exceed 50 percent of the total estimated project cost. Table 2 summarizes the funding requested per fiscal year.
Table 1 – Summary of non-Federal and Federal funding sources

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Non-Federal - El Dorado Irrigation District CIP</td>
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<tr>
<td>Federal - Reclamation WaterSMART Grant</td>
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<tr>
<td>Non-Federal - El Dorado Irrigation District (remainder at a later date)</td>
<td>3,100,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$5,100,000</strong></td>
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</table>

Table 2 – Funding Group II Funding Request

<table>
<thead>
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<th>Year 1 (FY2014)</th>
<th>Year 2 (FY 2015)</th>
<th>Year 3 (FY 2016)</th>
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</thead>
<tbody>
<tr>
<td>Funding Requested</td>
<td>$334,000</td>
<td>$333,000</td>
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</table>

Budget Proposal

The project budget includes detailed information and clearly identifies all project costs. The funding source for the project will be the District CIP as discussed above. Costs are provided for all budget items including the cost of work to be provided by consultants/contractors. Table 3 provides the funding sources and percent of total project costs.

Table 3 – Funding Sources and Percent of Total Project Costs

<table>
<thead>
<tr>
<th>Funding Sources</th>
<th>Percentage of Total Project Cost</th>
<th>Total Cost by Source</th>
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<tbody>
<tr>
<td>Recipient Funding</td>
<td>80%</td>
<td>$4,100,000</td>
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<tr>
<td>Reclamation Funding</td>
<td>20%</td>
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</tr>
<tr>
<td>Other Federal Funding</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>100%</strong></td>
<td><strong>$5,100,000</strong></td>
</tr>
</tbody>
</table>

Budget Narrative

A narrative description of each item included in the project budget is provided below and Table 5 - Budget Proposal provides a budget that estimates all costs by task and is located at the end of this section.
Salaries and Wages

Key District staff, and their hourly rates, associated with the Main Ditch project are provided in Table 4.

Table 4 – Key Personnel

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Hourly Rate</th>
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<tbody>
<tr>
<td>Cindy Megerdigian</td>
<td>Engineering Division Manager</td>
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</tr>
<tr>
<td>Robin Rice</td>
<td>Senior Engineer</td>
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</tr>
<tr>
<td>Dan Corcoran</td>
<td>Environmental Division Manager</td>
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<td>varied</td>
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<td>varied</td>
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<tr>
<td>varied</td>
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<td>$34</td>
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</table>

Estimated hours of each staff member for each Task are provided in Table 5 - Budget Proposal. The labor rates identify the direct labor rate separate from the fringe cost for each category. All labor estimates, including any proposed subcontractors, are allocated to specific tasks as outlined in the technical project description. Labor rates and proposed hours are displayed for each task. There is no salary increases proposed during the project time-frame.

Fringe Benefits

The total cost for Key Personnel outlined in Table 4 is for hourly rates only. Fringe and indirect rates are applied to the hourly rates in Table 5. These rates are proposed for evaluation purposes which will be used as fixed rates in any resulting award.

Fringe Benefits rates for each staff member include; Social Security, Medicare, and retirement employer contributions plus health, dental, vision, and life insurance premiums costs. The average cost of fringe benefits per employee is 59% of the employee’s hourly rate. Therefore, a Fringe Benefit Rate of 59% has been applied to each hour of staff time.

Travel

There is no travel proposed for this project or under this grant application.

Equipment

There is no equipment purchases proposed for this project or under this grant application.
Materials and Supplies

There are no materials or supplies proposed for purchase under this project or grant application.

Contractual

Work that will be accomplished under contract by professional consultants or construction contractors is included with a budget estimate of work that will be required for each task. The budgeted costs for contract services were estimated based on past experience with similar projects and is presented in Table 6. The estimated cost for the construction contract was prepared using industry standard costs for similar work and is presented in Table 7. A contingency line-item has been included on the construction estimate at 10%, as the design has not yet been prepared.

Environmental and Regulatory Compliance Costs

The “Environmental Compliance Costs” estimated to be incurred by Reclamation and the District in complying with environmental regulations applicable to a WaterSMART Grant are provided under Tasks 6 and 7. This includes all costs associated with any required documentation of environmental compliance, analyses, permits, or approvals. Applicable Federal environmental laws will include NEPA, ESA, and NHPA and other regulations.

These costs include, but are not limited to:

- The cost incurred by Reclamation to determine the level of environmental compliance required for the project
- The cost incurred by Reclamation, the District, or a consultant to prepare any necessary environmental compliance documents or reports
- The cost incurred by Reclamation to review any environmental compliance documents prepared by a consultant
- The cost incurred by the recipient in acquiring any required approvals or permits, or in implementing any required mitigation measures

The amount of the line item is estimated based on the expected environmental compliance costs for the project. The amount budgeted for environmental compliance is equal to 2%. This percentage is similar to other linear projects in California and not necessary unique to this project. Completion of some technical studies in advance of this grant application submittal has allowed the District to offset some costs of environmental and permitting requirements that would otherwise be required of the grant.
Environmental compliance activities will be performed by the District or consultants under contract with the District and the environmental compliance funds will be spent pursuant to a subsequent agreement between Reclamation and the District. If any portion of the funds budgeted for environmental compliance are not required for compliance activities, such funds will be requested to be reallocated to the project, as appropriate. Any actual costs above the amount budgeted will be paid for solely by the District.

**Reporting**

The District will provide reports on the status of the project, at the frequency required, as described in Task 1 and as described in Section VI. C of the FOA.

**Other Expenses**

There are no other expenses included in the grant application other than those described above.

**Indirect Costs**

Because our agency’s major functions benefit from our indirect costs to approximately the same degree, the Simplified Method as described in OMB Circular A-87 has been used to determine the indirect rate. The rate was determined by dividing the total allowable indirect costs by an equitable distribution base and is expressed as a percentage applicable to the hourly rate of Key Personnel. The distribution base is the direct salaries and wages of the key employees divided by the direct salaries and wages of all employees associated with implementation of the grant and equals to 100% (i.e. a 1:1 ratio).

The Indirect Cost covers all other staff members who support or provide services for the Grant, but do not directly charge an hourly rate to the Grant. Those staff functions include administrative, legal, and financial services, etc. Rates for fringe benefits and indirect costs are used for determination of total cost and are identified in Table 5 as percentages applied to the hourly rate.

**Total Costs**

Total cost for the project is $5.1 million. The Federal share is $1.0 million while the non-Federal share is $4.1 million.

**Budget Forms**

A completed SF-424A, Budget Information – Non-Construction Programs, and SF-424C, Budget Information – Construction Programs have been provided as required attachments.
Table 5 – Budget Proposal

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Division Manager</th>
<th>Senior Engineer</th>
<th>Drafting/GIS</th>
<th>Environmental Review Analyst</th>
<th>Construction Inspector</th>
<th>Staff Task Subtotal</th>
<th>Contract Outside Costs</th>
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## Reclamation WaterSMART: FY 2014
### Water and Energy Efficiency Grant

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<th>Environmental Review Analyst</th>
<th>Construction Inspector</th>
<th>Staff Task Subtotal</th>
<th>Contract Outside Costs</th>
<th>Total Task Cost</th>
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<tr>
<td>2.5 Review Property Valuations</td>
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**Task Subtotal**

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### 3.0 Well and Septic Investigation

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<tr>
<td>3.2 Prepare a map of all well and septic systems</td>
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<tr>
<td>3.3 Prepare a Final Report</td>
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**Task Subtotal**

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### 4.0 Determine Pre-Project Water Accounting

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<thead>
<tr>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Determine water loss factors</td>
</tr>
<tr>
<td>4.2 Estimate potential savings</td>
</tr>
<tr>
<td>4.3 Perform inflow/outflow testing</td>
</tr>
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<table>
<thead>
<tr>
<th></th>
<th>Division Manager</th>
<th>Senior Engineer</th>
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<td>Cost Category &amp; Description</td>
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Main Ditch Piping Project

Rigation District

R14AS00001

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Main Ditch Piping Project

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Main Ditch Piping Project

R14AS00001

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Water and Energy Efficiency Grant

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### Water and Energy Efficiency Grant

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**Main Ditch Piping Project**

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<td><strong>10.0</strong> Post-project Monitoring and water accounting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.1 Calculate post-project benefits</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>10.2 Review Water Quality Data</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>10.3 Conduct Water Flow Measurements</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>10.4 Prepare Post-Project Report</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Task Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>$0</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td></td>
<td></td>
<td><strong>$4,403,000</strong></td>
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</tbody>
</table>
## Table 7 – Construction Budget Estimate

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Estimated Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bonds &amp; Insurance</td>
<td>1</td>
<td>lump sum</td>
<td>50,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>2</td>
<td>Safety Plan and Programs</td>
<td>1</td>
<td>lump sum</td>
<td>25,000</td>
<td>25,000</td>
</tr>
<tr>
<td>3</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>lump sum</td>
<td>38,000</td>
<td>38,000</td>
</tr>
<tr>
<td>4</td>
<td>Storm Water Pollution Prevention Plan</td>
<td>1</td>
<td>each</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td>5</td>
<td>Pipeline Installation</td>
<td>15,000</td>
<td>lineal feet</td>
<td>200</td>
<td>3,000,000</td>
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<tr>
<td>6</td>
<td>Channel Re-grading</td>
<td>6,000</td>
<td>cubic yard</td>
<td>10</td>
<td>60,000</td>
</tr>
<tr>
<td>7</td>
<td>Manholes</td>
<td>15</td>
<td>each</td>
<td>10,000</td>
<td>150,000</td>
</tr>
<tr>
<td>8</td>
<td>Service Connections</td>
<td>3</td>
<td>each</td>
<td>5,000</td>
<td>15,000</td>
</tr>
<tr>
<td>9</td>
<td>Forebay Reservoir Outlet Modifications</td>
<td>1</td>
<td>lump sum</td>
<td>50,000</td>
<td>50,000</td>
</tr>
<tr>
<td>10</td>
<td>Reservoir 1 Inlet Modifications</td>
<td>1</td>
<td>lump sum</td>
<td>50,000</td>
<td>50,000</td>
</tr>
<tr>
<td>11</td>
<td>SCADA Upgrades</td>
<td>1</td>
<td>lump sum</td>
<td>30,000</td>
<td>30,000</td>
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<tr>
<td>12</td>
<td>Storm Water Connection Re-routing</td>
<td>2</td>
<td>each</td>
<td>20,000</td>
<td>40,000</td>
</tr>
</tbody>
</table>

|               | Subtotal                     | $3,528,000 |
|               | Construction Contingency @ 10% | 352,000   |

|               | Total Construction Cost      | $3,880,000 |
CONSENT ITEM NO. 5  
January 13, 2014

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consideration of El Dorado Irrigation District Disclosure Procedures to comply with all applicable disclosure obligations and requirements under the federal securities laws

Prior Board Action:
None.

Board Policy, Administrative Regulations, and Board Authority:
BP 0010: EID is a public agency dedicated to providing its services in a fiscally responsible manner.

Rules 10b-5 and 15c2-12 of the Securities Exchange Act of 1934: In transactions involving securities, it is unlawful to make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading.

Summary of Issues:
The District maintains a portfolio of debt instruments to help fund and finance the construction or acquisition of District capital facilities. Federal securities rules require the District to disclose material facts to potential investors, both upon issuance and on a continuing basis while the debt instruments remain outstanding.

Recently, the Securities and Exchange Commission, which enforces these disclosure rules, has increased its scrutiny of government agencies’ compliance. In response, bond counsel recommended that the District develop a written procedure that documents the District’s existing compliance practices and provides a template for continued future compliance. The resulting procedure is attached for consideration. Formal Board approval of this procedure is a desirable step to demonstrate that the District takes its continuing disclosure obligations seriously.

Staff Analysis/Evaluation:
The federal response to the financial abuses and calamities that precipitated the Great Depression included the Securities Act of 1933 and the Securities Exchange Act of 1934. Among other things, each law contained anti-fraud rules, which the Securities and Exchange Commission (SEC) enforces as Rules 10b-5 and 15c2-12 of the 1934 Act. Since 1975, it has been clear that
these rules apply not only to private entities, but also to government agencies that issue securities such as the District’s debt obligations.

Rule 10b-5 expresses the unlawfulness of making untrue statements of material fact -- and also of omitting to state material facts necessary to ensure that statements that are made, are not misleading. It is not necessary to prove any intent to defraud; recklessness or even negligence in mis-stating or failing to disclose a material fact is sufficient to violate the rule. Rule 15c2-12 extends the obligation to the issuer’s annual financial reporting, and together the rules create ongoing disclosure obligations that arise whenever an issuer is “speaking to the market” and new or changed conditions warrant some new or different disclosure. A fact is material and in need of disclosure whenever there is a substantial likelihood, under the unique circumstances of the case, that a reasonable investor or prospective investor would consider the information important to their investment decision.

For the District, the primary vehicles for disclosure are the Preliminary Official Statement and Official Statement it issues in conjunction with each new debt offering, and the annual reporting it makes to comply with its debt covenants and California law -- for example, its audited financial reports and its Comprehensive Annual Financial Report.

Although the SEC focuses its enforcement activities primarily on the private sector, in recent years it has initiated high-profile actions against some government agencies, including the State of Illinois, Orange County (after its bankruptcy), San Diego, the City of Victorville, and municipalities and school districts in other states. The SEC has also expanded its enforcement staff and made clear its intent to apply increased scrutiny to the public sector in the future.

Therefore, the District’s bond counsel, Doug Brown of Stradling Yocca Carlson & Rauth, recommended that the District memorialize and improve upon its existing disclosure procedures through a formal, Board-approved document entitled, “El Dorado Irrigation District Disclosure Procedures” (copy attached). This document furnishes detailed descriptions of how District staff, bond counsel, and other consultants review and consult on Preliminary Official Statements, Official Statements, and other documents to ensure that the District complies with its disclosure obligations. The procedures include periodic training of the key involved District staff. Doug Brown personally conducted such a training session at the District on November 21, 2013.

District staff and counsel have reviewed and revised the Disclosure Procedures document to ensure that it is accurate. We recommend Board approval.

**Board Decisions/Options:**

**Option 1:** Approve the El Dorado Irrigation District Disclosure Procedures.

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

**Option 3:** Take no action.
Staff/General Manager Recommendation:

Option 1.

Attachments:

A. Proposed El Dorado Irrigation District Disclosure Procedures

Thomas D. Cumpston
General Counsel

Mark Price, CPA
Finance Director

Jim Abercrombie
General Manager
EL DORADO IRRIGATION DISTRICT
DISCLOSURE PROCEDURES

PURPOSE

The purpose of these Disclosure Procedures (the “Procedures”) is to memorialize and communicate procedures in connection with obligations, including notes, bonds and certificates of participation, issued by the El Dorado Irrigation District (the “District”) so as to ensure that the District continues to comply with all applicable disclosure obligations and requirements under the federal securities laws.

BACKGROUND

The District from time to time issues certificates of participation, revenue bonds, notes or other obligations (collectively, “Obligations”) in order to fund or refund capital investments, other long-term programs and working capital needs. In offering Obligations to the public, and at other times when the District makes certain reports, the District must comply with the “anti-fraud rules” of federal securities laws. (“Anti-fraud rules” refers to Section 17 of the Securities Act of 1933 and Section 10(b) of the Securities and Exchange Act of 1934, and regulations adopted by the Securities and Exchange Commission under those Acts, particularly “Rule 10b-5” under the 1934 Act.)

The core requirement of these rules is that potential investors in Obligations must be provided with all “material” information relating to the offered Obligations. The information provided to investors must not contain any material misstatements, and the District must not omit material information which would be necessary to provide to investors a complete and transparent description of the Obligations and the District’s financial condition. In the context of the sale of securities, a fact is considered to be “material” if there is a substantial likelihood that a reasonable investor would consider it to be important in determining whether or not to purchase the securities being offered.

When the District issues Obligations, the two central disclosure documents which are prepared are a preliminary official statement (“POS”) and a final official statement (“OS”, and collectively with the POS, “Official Statement”). The Official Statement generally consists of (i) the forepart (which describes the specific transaction including maturity dates, interest rates, redemption provisions, the specific type of financing, the leased premises (in certificate of participation financings) and other matters particular to the financing, (ii) a section which provides information on the District, including its financial condition as well as certain operating information (“District Section”), and (iii) various other appendices, including the District’s audited financial report, form of the proposed legal opinion, and form of continuing disclosure undertaking. Investors use the Official Statement as one of their primary resources for making informed investment decisions regarding the District’s Obligations.

DISCLOSURE PROCESS

When the District determines to issue Obligations, the Director of Finance requests the involved departments to commence preparation of the portions of the Official Statement (including particularly the District Section) for which they are responsible. While the general format and content of the Official Statement does not normally change substantially from offering to offering, except as necessary to reflect major events, the Director of Finance and General Counsel are separately responsible for reviewing and preparing or updating certain portions of the District Section which are within their particular area of knowledge. Once the Official Statement has been substantially updated, the entire Official Statement is
shared with the Office of the General Manager for its review and input. Additionally, all participants in the disclosure process are separately responsible for reviewing the entire Official Statement.

Members of the financing team, including the District’s Bond Counsel, assist staff in determining the materiality of any particular item, and in the development of specific language in the District Section. Members of the financing team also assist the District in the development of a “big picture” overview of the District’s financial condition, included in the District section. This overview highlights particular areas of concern. Bond Counsel has a confidential, attorney-client relationship with officials and staff of the District.

The Director of Finance or a member of the financing team at the direction thereof schedules one or more meetings or conference calls of the financing team (which includes District officials, Bond Counsel, the underwriter of the Obligations, and the underwriter’s counsel), and new drafts of the forepart of the Official Statement and the District Section are circulated and discussed. Such communications may occur via electronic means rather than by meetings or conference calls. During this part of the process, there is substantial contact among District staff and other members of the financing team to discuss issues which may arise determine the materiality of particular items and ascertain the prominence in which the items should be disclosed.

Prior to distributing a POS to potential investors, there is typically a formal conference call which includes District officials involved in the preparation of the POS, members of the financing team and the underwriters and the underwriter’s counsel, during which the Official Statement is reviewed in its entirety to obtain final comments and to allow the underwriters to ask questions of the District’s senior officials. This is referred to as a “due diligence” meeting.

A substantially final form of the POS is provided to the board of directors in advance of approval to afford the Board of Directors an opportunity to review the POS, ask questions and make comments. The substantially final form of the POS is approved by the board of directors which generally authorizes certain senior staff to make additional corrections, changes and updates to the POS in consultation with General Counsel and Bond Counsel.

At the time the POS is posted for review by potential investors, a senior District official executes a certificate deeming the POS complete (except for certain pricing term) as required by SEC Rule 15c2-12.

Between the posting of the POS for review by potential investors and delivery of the final OS to the underwriter for redelivery to actual investors in the Obligations, any changes and developments will have been incorporated into the District Section if required. If necessary to reflect developments following publication of the POS or OS, as applicable, supplements will be prepared and published.

In connection with the closing of the transaction, one or more senior District officials execute a certificate stating that the Official Statement, as of the date of each OS and as of the date of closing, does not contain any untrue statement of material fact or omit to state any material fact necessary to make the statements contained in the Official Statement in light of the circumstances under which they were made, not misleading. General Counsel also provides an opinion letter advising the Obligations underwriters that information contained in the section of the Official Statement relating to the District and its operations (or specified portions thereof) as of its date did not, and as of the date of the closing, does not contain any untrue statement of a material fact or omitted or omits to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. General Counsel does not approve to any financial, statistical, economic or demographic data or forecasts,
charts, tables, graphs, estimates, projections, assumptions or expressions of opinion, and certain other customary matters.

DISTRICT SECTION

The information contained in the District Section is developed by personnel under the direction of the Director of Finance and the District's General Counsel, with the assistance of the financing team. In certain circumstances, additional officials will be involved, as necessary. The following principles govern the work of the respective staffs that contribute information to the District Section:

• District staff involved in the disclosure process is responsible for being familiar with its responsibilities under federal securities laws as described above.

• District staff involved in the disclosure process should err on the side of raising issues when preparing or reviewing information for disclosure. Officials and staff are encouraged to consult General Counsel, Bond Counsel or members of the financing team if there are questions regarding whether an issue is material or not.

• Care should be taken not to shortcut or eliminate any steps outlined in the Procedures on an ad hoc basis. However, the Procedures are not necessarily intended to be a rigid list of procedural requirements, but instead to provide guidelines for disclosure review. If warranted, based on experience during financings or because of additional SEC pronouncements or other reasons, the District should consider revisions to the Procedures.

• The process of updating the District Section from transaction to transaction should not be viewed as being limited to updating tables and numerical information. While it is not anticipated that there will be major changes in the form and content of the District Section at the time of each update, everyone involved in the process should consider the need for revisions in the form, content and tone of the sections for which they are responsible at the time of each update.

• The District must make sure that the staff involved in the disclosure process is of sufficient seniority such that it is reasonable to believe that, collectively, they are in possession of material information relating to the District, its operations and its finances.

TRAINING

Periodic training for the staff involved in the preparation of the Official Statement (including the District Section) is coordinated by the finance team, Director of Finance and General Counsel. These training sessions are provided to assist staff members involved in identifying relevant disclosure information to be included in the District Section. The training sessions also provide an overview of federal laws relating to disclosure, situations in which disclosure rules apply, the purpose of the Official Statement and the District Section, a description of previous SEC enforcement actions and a discussion of recent developments in the area of municipal disclosure. Attendees at the training sessions are provided the opportunity to ask questions of finance team members, including Bond Counsel concerning disclosure obligations and are encouraged to contact members of the finance team at any time if they have questions.

ANNUAL CONTINUING DISCLOSURE REQUIREMENTS

In connection with the issuance of Obligations, the District has entered into a number of contractual agreements ("Continuing Disclosure Certificates") to provide annual reports related to its
financial condition (including its audited financial statements) as well as notice of certain events relating to the Obligations specified in the Continuing Disclosure Certificates. The District must comply with the specific requirements of each Continuing Disclosure Agreement. The District’s Continuing Disclosure Certificates generally require that the annual reports be filed within 270 days after the end of the District’s fiscal year, and event notices are generally required to be filed within 10 days of their occurrence.

Specific events which require “material event” notices are set forth in each particular Continuing Disclosure Certificate.

The Director of Finance shall be responsible for preparing and filing the annual reports and material event notices required pursuant to the Continuing Disclosure Certificates. Particular care shall be paid to the timely filing of any changes in credit ratings on Obligations (including changes resulting from changes in the credit ratings of insurers of particular Obligations).
EL DORADO IRRIGATION DISTRICT

SUBJECT:
Discussion and concurrence of 2014 EID Board standing committee assignments.

Previous Board Action:
The Board President annually makes appointments to EID Board standing committees.

Board Policies (BP), Administrative Regulations (AR), and Board Authority:
BP 12110 states that the President, with concurrence by the Board, may appoint Board members to serve as Chairs of Board Standing Committees. The Standing Committees shall be identified in AR 12111 and updated annually in consultation with the General Manager and General Counsel.

Summary of Issue(s):
President Day recommends the following appointments as Chair and Vice Chair to EID Board standing committees. Per AR 12111, standing committees are composed of the entire membership of the Board.

- Engineering and Operations Standing Committee
  Dale Coco, MD, Chair
  Alan Day, Vice Chair

- Insurance and Personnel Standing Committee
  Bill George, Chair
  George Osborne, Vice Chair

- Finance, Rates, and Charges Standing Committee
  Greg Prada, Chair
  Bill George, Vice Chair

- Legal and Legislation Standing Committee
  Alan Day, Chair
  Greg Prada, Vice Chair

- Recreation and Property Management Standing Committee
  George Osborne, Chair
  Dale Coco, MD, Vice Chair
Board Decision/Options:
Option 1: Concur with Board President Day's recommendation of 2014 EID Board standing committee assignments.

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

Option 3: Take no action.

Recommended Action:
Option 1.

Support Documents Attached:
None

Jennifer Sullivan  
Clerk to the Board

Thomas D. Cumpton  
General Counsel

Jim Abercrombie  
General Manager

Alan Day  
Board President
EL DORADO IRRIGATION DISTRICT

SUBJECT:
Discussion of 2014 association and community organization assignments.

Previous Board Action:
The Board President annually acts on nominations, appointment, and ongoing participation in associations and community organizations.

Board Policies (BP), Administrative Regulations (AR), and Board Authority:
BP 12100 states that the President, with concurrence by the Board, may appoint Board representatives to various organizations and associations. These entities shall be identified in AR 12101 and updated annually in consultation with the General Manager and General Counsel.

Summary of Issue(s):
Listed below are current appointments and ongoing participation in association and community organizations. President Day wishes to have a public discussion of any prospective changes before taking action.

- Regional Water Authority (RWA)
  Director Bill George

- El Dorado Local Agency Formation Commission (LAFCO)
  Director Alan Day

- El Dorado County Fire Chiefs Association
  Director George Osborne

- El Dorado County Citizens for Water
  Directors Bill George and Dale Coco, MD

- Taxpayers Association of El Dorado County
  Directors Bill George and Dale Coco, MD

- Cosumnes American Bear and Yuba Integrated Regional Water Management Plan (CABY IRWMP) Finance Committee
  Director Bill George

- Mountain Counties Water Resources Association
  Director Bill George

- Association of California Water Agencies (ACWA) / Joint Powers Insurance Authority (JPIA)
  Director George Osborne
  Director Bill George, Alternate

- Association of California Water Agencies (ACWA) Region 3 Board of Directors
  Director Bill George
• ACWA Board of Directors
  Director Bill George

• ACWA 2014 Groundwater Sustainability Task Force
  Director Bill George

• El Dorado Water and Power Authority
  Director George Osborne
  Director Greg Prada
  Director Bill George
  Director Dale Coco, MD
  Director Alan Day

• Rotary Club of Placerville
  Director George Osborne

• Rotary Club of Cameron Park
  Director Dale Coco, MD

**Board Decision/Options:**
No action. Information only.

**Support Documents Attached:**
None

Jennifer Sullivan
Clerk to the Board

Thomas D. Cumpston
General Counsel

Jim Abercrombie
General Manager

Alan Day
Board President
EL DORADO IRRIGATION DISTRICT

SUBJECT:
Discussion of the District’s Capital Improvement Plan (CIP) ranking system.

Previous Board Action:
None

Board Policies (BP), Administrative Regulations (AR), and Board Authority:
BP 3010 states that the Board annually adopts a five-year Capital Improvement Plan (CIP) and approves funding on an as-needed basis.

AR 3011 states that the CIP is presented in a workshop in September or October, and presented and adopted by the Board no later than the end of November each year.

Summary of Issue(s):
CIP ranking system: I have observed that during the course of the year when CIP projects are brought before the Board there is often little context as to how they rank in relationship with each other, from a budgetary standpoint, in the overall context of our CIP budget. The current ranking system is inadequate. How and what would we eliminate, defer, or slow down, and which projects would they be, if the Board chooses to, or by necessity has to, reduce expenditures. Within the CIP, which projects are more important and which are less if our financial resources are limited.

I would like to propose that management develop and present to the Board by the February 24 meeting, an additional ranking system based on budgetary constraints. If the Board chooses to, or by necessity has to, reduce capital expenditures using the existing CIP in effect draw three red lines. What would management suggest eliminating, deferring or slowing down in order to handle a 10% reduction; a 25% reduction; and a 50% reduction in the budget.

After discussion today I would like this included as formal direction to management, the development of an additional CIP ranking system based on budgetary constraints, to be placed on and voted on at the January 27 meeting. If approved by the Board, management would present the additional CIP ranking system at the February 24 meeting, for possible adoption at the March 10 meeting.

Board Decision/Options:
No action. Information only.

Support Documents Attached:
None

Alan Day  
Board President
EL DORADO IRRIGATION DISTRICT

SUBJECT:
Discussion of staff powerpoint presentation material.

Previous Board Action:
None

Board Policies (BP), Administrative Regulations (AR), and Board Authority:
BP 12080 and AR 12081 establish procedures and requirements for Board meetings.

Summary of Issue(s):
Powerpoint presentation material by staff: I have observed that pertinent and important information is contained in and presented to the Board and public in the powerpoint presentations by staff. However, sometimes this is the first time we, the Board and the public, have seen the information as it is not always a part of the Board packet available to the Board and public. Going forward I would like to require that the powerpoint presentation materials always be included in the Board packet for advance review by both the Board and public prior to presentation at the Board meetings.

After discussion today I would like this included as a formal Board Policy to be placed on and voted on at the January 27 meeting.

Board Decision/Options:
No action. Information only.

Support Documents Attached:
None

Alan Day
Board President
EL DORADO IRRIGATION DISTRICT

SUBJECT:
Discussion with a subsequent vote at a later meeting vs. immediately voting on items.

Previous Board Action:
None

Board Policies (BP), Administrative Regulations (AR), and Board Authority:
BP 12080 and AR 12081 establish procedures and requirements for Board meetings.

Summary of Issue(s):
Discussion with a subsequent vote at a later meeting vs. immediately voting on items: I have observed that many times management prepares and places, with little or no advance Director or public knowledge or input, items on the agenda. Making often detailed, lengthy presentation that at times includes brand new information and then requests an immediate vote with “option one” being the only option available unless a Director can come up with an alternative option “on the fly” or at best in a rush in the 72 hours after getting the Board packet just prior to the meeting. Interested members of the public have little time to consider and react as well.

Going forward I would like to propose that all items that management would like to place before the Board for a vote must be presented to the Board and public at a meeting for discussion only (no vote) prior to requesting a vote at a subsequent meeting. This way adequate time is afforded the Board and public to discuss, get public input, think about and consider alternatives prior to actually voting.

After discussion today I would like this included as a formal Board Policy to be placed on and voted on at the January 27 meeting.

Note: An exception to this proposed policy for a genuine emergency can be included. However, given the General Managers broad powers and the ability for the Board to hold emergency meetings this exception would be rarely if ever used.

Board Decision/Options:
No action. Information only.

Support Documents Attached:
None

Alan Day
Board President

AIS – Director Item
Discussion with a subsequent vote at a later meeting vs. immediately voting on items
January 13, 2014
Page 1 of 1
EL DORADO IRRIGATION DISTRICT

SUBJECT: Update of Water Supply Conditions

Previous Board Actions:

- N/A

Board Policies (BP) and Administrative Regulations (AR):

BP 5010 Water Supply Management - The Board is committed to provide a water supply based on the principles of reliability, high quality, and affordability in a cost-effective manner with accountability to the public. It is the General Manager's responsibility to ensure that the tenets of this policy are carried out in an open, transparent manner through sound planning, to assure preparedness under varying conditions, and effective management.

AR 5011 Water Supply Management Conditions - The District recognizes that variations in weather patterns can cause watersheds to yield different quantities of water supply in any given year. In some years, dry weather or drought conditions may occur which result in varying degrees of water shortage.

Summary of Issue:

Staff periodically updates the Board on the status of water supply conditions.

Staff Analysis:

The District's service area has experienced two consecutive dry years, with calendar year 2013 being the driest on record. Very little precipitation has fallen in the latter part of 2013, leading to a great deal of concern for the water supply outlook heading into 2014. The following summarizes the current status of our water supplies:

- Jenkinson Lake is approximately 65% full with 26,600 acre-feet of stored water as of January 6, 2014. The historical average for this time of year is 76% full, and perhaps of greater concern is that because of the lack of rainfall, the reservoir is continuing to decline when it typically should be in a filling period. The reservoir would be in a worse condition, if not for the fact that in 2013 the District was able to import approximately 3,400 acre-feet of water into Jenkinson Lake from Project 184 through the Hazel Creek tunnel in anticipation of continuing dry conditions. We expect to import more water through the Hazel Creek tunnel in 2014, as discussed below.
• **Project 184** is expected to deliver the full pre-1914 water right of 15,080 acre-feet this year for consumptive use through a combination of normal deliveries to the Reservoir 1 water treatment plant and the Hazel Creek tunnel diversions into Jenkinson Lake.

• **Folsom Reservoir** is approximately 18% full with a water elevation of 361 feet as of January 6, 2014, which is approximately 37% of average for this time of year. Currently the supplies available from Folsom Lake include the USBR contract of 7,550 acre-feet and the ditch/Weber Reservoir water rights totaling 4,560 acre-feet. The District expects the USBR contract allotment to be reduced again in 2014. In 2013, the USBR cutback our allotment to 5,188 acre-feet. Additionally, the ditch/Weber Reservoir supply is based on actual gage data, and in dry years the District assumes this supply will yield approximately 3,000 acre-feet per year. The yield in 2013 was 3,294 acre-feet. Depending on the magnitude of cutback by USBR and the ditch/Weber yield, the District may need to supplement our supplies available in Folsom Lake by requesting a temporary one-year Warren Act contract from the USBR to utilize a portion of our Permit 21112 water right.

**Operational strategies**

To prepare for potential continued dry conditions, the District is implementing several operational strategies to minimize future impacts and conserve our supplies to the extent possible.

• Maximize winter pumping from Folsom Lake – The El Dorado Hills water treatment plant (EDHWTP) is typically taken offline in the winter months for maintenance and the El Dorado Hills service area is served water from our eastern system supplied by Project 184 and Jenkinson Lake. In order to prepare for drought and to save some water in Jenkinson Lake, staff will be bringing the EDHWTP online in January to serve El Dorado Hills and turning off the gravity supply from the Gold Hill Intertie. This will maximize use of our supplies from Folsom Lake and save water in Jenkinson Lake. The demand in El Dorado Hills in the winter is not very high and the savings at Jenkinson Lake are moderate.

• Evaluate Folsom raw water pump station capacity – The raw water pump station capacity for the EDHWTP is diminished with lowered Folsom Lake levels. The majority of the pumps are located at approximately the 320 ft elevation, which is 40 feet below the current lake level. If Folsom Lake levels continue to drop, the District may need to install temporary pumps on a floating barge, or other similar arrangement to supplement the capacity of the pump station for the summer and fall months.

• Bring Reservoir 1 WTP online – Reservoir 1 WTP has been offline for the fall of 2013 for maintenance and for the annual canal outage activities. Staff will also be bringing this plant online as soon as possible to begin to utilize our Project 184 supplies in order to further reduce the demand out of Jenkinson Lake. It is anticipated that Reservoir 1 WTP will deliver approximately 10,000 to 12,000 acre-feet in 2014.

• Curtail power generation – The El Dorado powerhouse has been shut down in order to save some water supply in Caples Lake and Silver Lake for future consumptive use.

• Utilize the Hazel Creek tunnel to import water into Jenkinson Lake from Project 184 – Utilizing our Folsom supplies to the fullest extent, and the planned usage at Reservoir 1 WTP could free up approximately 3,000 – 5,000 acre-feet of water from Project 184 that
would be available to import into Jenkinson Lake. This import would occur early in the spring.

The District is fortunate to have constructed and maintained an integrated water system that allows some operational flexibility to improve water supply reliability in dry years. However, although we are in better shape than agencies like City of Folsom and San Juan Water District that primarily rely on Folsom Lake for their water supply, staff is very concerned with the lack of precipitation thus far. If we continue to experience dry conditions through this winter, we expect that the District will need to implement a drought declaration and call for various voluntary and/or mandatory conservation measures. The District’ Drought Preparedness Plan and recently revised Drought Action Plan provide blueprints for responding to drought conditions.

However, no action is recommended at this time until we see what the winter brings as far as precipitation and snowpack. In addition to implementing the operational strategies outlined above, staff will continue to monitor supply and demand and will provide regular updates and recommendations to the Board.

Although no drought declaration is recommended at this time, customers are encouraged to continue to be mindful of their indoor and outdoor water usage and conserve water in every way possible.

**Board Decisions/Options:**

Information Item. No action required.

**Supporting Documents Attached:**

A. Jenkinson Lake storage chart
B. Drought Action Plan
Brian Mueller
Director of Engineering

Tom McKinney
Director of Operations

Thomas Cumpston
General Counsel

Jim Abercrombie
General Manager
Jenkinson Lake at Sly Park
Reservoir Conditions
(as of Midnight – January 6, 2014)

<table>
<thead>
<tr>
<th>Reservoir Condition</th>
<th>Current Level</th>
<th>Historical Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Level</td>
<td>26,612 AF</td>
<td>41,033 AF</td>
</tr>
<tr>
<td>65%</td>
<td>76%</td>
<td></td>
</tr>
<tr>
<td>(Current Capacity)</td>
<td>(Historical Average)</td>
<td></td>
</tr>
</tbody>
</table>
PURPOSE. This Drought Action Plan serves as a detailed work plan for El Dorado Irrigation District staff, not only during drought conditions, but before and after as well. It includes specific actions for management of the District’s water supply and demand, addresses the impacts associated with drought, and facilitates the timely implementation of effective drought responses.

CHANGES. The foundation of this action plan is the District’s Drought Preparedness Plan, which was adopted by the Board of Directors in January of 2008. The drought stages and their corresponding titles have been updated from three to four stages; however, and now conform with the February 2010 member recommendations of a Regional Water Authority workgroup that was tasked with developing consistent messaging in the greater Sacramento region during drought conditions. District staff also refined the customer actions of the Drought Preparedness Plan; and these voluntary, mandatory, and prohibited actions are listed in the water efficiency sections of each drought stage.

ADOPTION. When drought conditions are imminent, the District’s 2008 Drought Preparedness Plan should be updated by District staff to be consistent with this action plan. The Drought Preparedness Plan should be revised with the new drought stages, titles, and refined customer actions; and then re-adopted by the Board of Directors along with the adoption of drought declaration materials.
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1.0 Introduction

1.1 Purpose of this Plan

In 2007, the El Dorado Irrigation District (EID or District) and the El Dorado County Water Agency (EDCWA) completed comprehensive drought preparedness plans that provided indicators and modeling tools to determine when El Dorado County, and specifically each water purveyor, might enter into drought conditions. In January of 2008, the EID Board of Directors adopted the District’s Drought Preparedness Plan. District staff then developed an internal action plan to address specific tasks and detailed actions, which was completed in March of 2009, and was based upon the drought metrics and customer responses provided in EID’s Drought Preparedness Plan.

This 2012 updated Drought Action Plan (Plan) continues to serve as a detailed work plan for District staff in order to prepare for and address drought conditions. It includes specific actions regarding the management of water supply and demand, addresses the impacts associated with drought, and facilitates a District-wide drought response that is both timely and effective. This Plan is also listed in Part III of the District’s Emergency Operations Plan.

1.2 Summary of Drought Stages

All declarations of drought stages occur by action of the EID Board of Directors. As a policy, EID implements the same drought stage and employs the same response measures throughout its’ geographical water supply regions, making public outreach and implementation consistent and effective. For an example of a drought declaration, resolution, and staff report, refer to the March 23, 2009 Board packet and Public Hearing Item Number 9.

The drought stages now defined by this Plan are consistent with the February 26, 2010 recommendations of a Regional Water Authority (RWA) work group, which consisted of ten member agencies in the Sacramento region. The group was tasked with developing a regional water shortage contingency plan that would provide consistent messaging for the region, and ranges from Stages 1 through 4 as the water shortage becomes progressively worse. When a drought stage is declared by the water purveyor’s governing body, as deemed necessary, the individual purveyors would also determine the actual water demand reductions for each declared stage.

The four stages of the EID Drought Action Plan depend upon District water supply conditions, and the corresponding response requested of our customers. For normal water supply conditions, the District would continue to implement water conservation measures and prohibit water waste, while raising public awareness regarding water efficiency practices. If water supplies become slightly restricted, the Plan calls for an introductory Stage 1 drought response, during which customers are informed of possible shortages and asked to voluntarily conserve up to 15 percent. At Stage 2 when water supplies become moderately restricted, both voluntary and mandatory measures are implemented to achieve a demand reduction goal of up to 30 percent. If water supplies subsequently become severely restricted, a Stage 3 drought can be called with the enforcement of mandatory measures to achieve a demand reduction goal of up to 50 percent. Lastly, if drought conditions persist and the District experiences extremely restricted water supplies, then a Stage 4 can be implemented that requires water rationing for health and safety purposes in order to achieve a greater than 50 percent reduction of demands.

Table 1 below summarizes these water supply conditions and the corresponding drought stages, titles, and objectives; along with the expected response actions and demand reduction targets. The stage titles are taken from the RWA workgroup recommendations.
<table>
<thead>
<tr>
<th>Water Supply Conditions</th>
<th>Drought Stage</th>
<th>Stage Title</th>
<th>Stage Objective</th>
<th>Response Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slightly Restricted Water Supplies</td>
<td>Stage 1 Introductory stage with voluntary reductions in use.</td>
<td>Water Alert</td>
<td>Initiate public awareness of predicted water shortage and encourage conservation.</td>
<td>Encourage voluntary conservation measures to achieve up to a 15% demand reduction.</td>
</tr>
<tr>
<td>Up to 15% Supply Reduction</td>
<td>Stage 2 Voluntary and mandatory reductions in water use.</td>
<td>Water Warning</td>
<td>Increase public awareness of worsening water shortage conditions.</td>
<td>Voluntary conservation measures are continued, with the addition of some mandatory measures to achieve up to a 30% demand reduction.</td>
</tr>
<tr>
<td>Moderately Restricted Water Supplies</td>
<td>Stage 3 Mandatory reductions in water use.</td>
<td>Water Crisis</td>
<td>Enforce mandatory measures and/or implement water rationing to decrease demands.</td>
<td>Enforce mandatory measures to achieve up to a 50% demand reduction.</td>
</tr>
<tr>
<td>Up to 30% Supply Reduction</td>
<td>Stage 4 Water rationing for health and safety purposes.</td>
<td>Water Emergency</td>
<td>Enforce extensive restrictions on water use and implement water rationing to decrease demands.</td>
<td>Enforce mandatory measures to achieve greater than 50% demand reduction.</td>
</tr>
<tr>
<td>Severely Restricted Water Supplies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 50% Supply Reduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extremely Restricted Water Supplies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater than 50% Supply Reduction</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
1.3 Action Plan Organization

This document will focus on those activities directly impacting the management of water supply and demand, along with the customer services that would be modified to address changing drought conditions. The tasks and duties in this Plan are organized by function rather than by department. There are a number of policies that are identified as drought conditions occur. Revisiting and updating drought policies during and after a drought are essential to continuing the benefit and effectiveness of this Plan.

1.4 Applicable Water Codes

During times of water shortage, there are actions the District may take that are not solely based upon internal policies and regulations. Several California Water Code Sections grant authority to the water purveyor to declare drought conditions and implement drought stages. Included below are summaries of specific actions required during water shortage conditions; however, the official California Water Code should be referenced for the complete language of the section.

Section 350 – The governing body of the water purveyor may declare a water shortage emergency condition whenever it determines that ordinary demands cannot be satisfied without depleting supplies to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

Section 351 – The declaration shall be made only after a public hearing is held, at which consumers have an opportunity to protest and to present their respective needs to the governing body. There is an exception for a breakage or failure that causes an immediate emergency.

Section 352 – At least seven days prior to the date of the public hearing, a notice of the time and place of the hearing shall be published in a newspaper that is distributed within the water purveyor’s service area.

Section 353 – When the governing body has declared a water shortage emergency condition within its service area, it shall adopt regulations and restrictions on the delivery and consumption of water supplied for public use in order to conserve water supply for the greatest public benefit, with particular regard to domestic use, sanitation, and fire protection.

Section 354 – After allocating the amount of water, which in the opinion of the governing body will be necessary to supply domestic use, sanitation, and fire protection, the regulations may establish priorities in the use of water for other purposes — without discrimination between consumers using water for the same purpose.

Section 355 – These regulations and restrictions shall remain in effect during the water shortage emergency condition, and until the water supply has been replenished or augmented.

Section 356 – These regulations and restrictions may prohibit new or additional service connections, and authorize discontinuing service to consumers willfully in violation of a regulation or restriction.

Section 357 – These regulations and restrictions prevail over any conflicting laws governing water allocations while the water shortage emergency condition is in effect.

Section 22257 – An irrigation district may impose equitable rules and regulations, including controls on the distribution and use of water, as conditions of ongoing service to its customers.
1.5 Drought and Water Management Tools

There are resources available to aid water purveyors and individuals before, during, and after a drought. Below is a brief description of a few of these tools.

- **California Urban Drought Guidebook** – a publication providing help to water managers facing water shortages by showing them how to use tried-and-true methods of the past, such as demand management, conservation analysis, and fiscal considerations; as well as new methods and technology such as ET controllers and cooling system efficiencies. Download the Urban Drought Guidebook, 2008 Updated Edition at: [http://www.water.ca.gov/pubs/planning/urban_drought_guidebook/urban_drought_guidebook_2008.pdf](http://www.water.ca.gov/pubs/planning/urban_drought_guidebook/urban_drought_guidebook_2008.pdf)

- **DWR Office of Water Use Efficiency** – makes available technical expertise, manages the CIMIS weather station network, carries out demonstration projects and data analysis to increase efficiency where possible, and provides loans and grants to achieve efficiency in water and energy. This information can be found at [www.owue.water.ca.gov](http://www.owue.water.ca.gov).

- **DWR Drought Conditions** – a webpage providing State and regional updates with regards to water conditions. More information can be found at [http://www.water.ca.gov/waterconditions/](http://www.water.ca.gov/waterconditions/)

- **U.S. Bureau of Reclamation Drought Program** – aids federal water contractors and other interested parties in a wider view of drought conditions, encompassing the western United States. Staff from this program will also provide technical assistance, grant and loan funding, and expertise in drought planning. Information on this Bureau program can be found at [www.usbr.gov/drought](http://www.usbr.gov/drought).

- **California Urban Water Conservation Council** – an organization serving water purveyors and environmental stakeholders through a collaborative process. Provides best management practices (BMPs) for municipal water conservation, as well as technical expertise for the implementation of these BMPs. More information can be found at [www.cuwcc.org](http://www.cuwcc.org).
2.0 Coordination and Guidelines

EID's drought response should be managed by participants in the District's Drought Response Team (DRT), which should include department heads and/or their appointed representative and the General Manager. The DRT will coordinate with other agencies in the county and region through a Drought Interagency Coordination Committee (DICC) managed by the El Dorado County Water Agency. Responding to a drought in El Dorado County should include a number of tactics and agencies, so this multi-level management team with function-specific responsibilities is an important planning device for collaborative and comprehensive drought event management.

2.1 Drought Response Team

The Drought Preparedness Plan emphasized the importance of a DRT for inter-District drought management. Initially, the DRT should be made up of staff representing the following functions.

- Engineering and Operations
- Finance and Customer Services
- Legal
- Public Outreach
- Recreation and Property
- Water Efficiency

This list may be narrowed down due to staff availability and specific needs, as different functions may not be necessary in all situations nor at all times.

Role and Responsibilities

The DRT will be responsible for monitoring the activities of the District with regard to general drought management, including issues of timing, policy, public relations, financial solvency, customer education, facility operations, environmental considerations, and public health. The EID Board of Directors should be updated by the General Manager and/or staff at regular and special board meetings. During cases of extreme drought, updates may occur more often by e-mail or by phone, consistent with the requirements of the Ralph M. Brown Open Meetings Act.

The DRT should meet periodically during normal water supply conditions to discuss updates and other important ongoing considerations. The group would meet more often as drought events occur and worsen, perhaps once per week or even once per day in extreme cases. A DRT meeting may be requested by any member, but should be facilitated and convened jointly by the Customer Services and Water Operations Managers or as designated by the General Manager.

Another important component of the DRT function during the early stages of drought is to make preparations for subsequent stages, including an examination of staff levels, financial resources, water waste enforcement staff resources, and areas of collaboration among other agencies in the region. It is also important for the DRT to recognize that some of the activities recommended by this Plan may not be possible at current staffing levels and with current financial resources.
2.2 Drought Monitoring and Modeling

While County-wide strategies and mechanisms can be discussed by the DICC, monitoring of individual water supplies and drought conditions are the responsibility of each water purveyor. Within EID, drought monitoring will be the combined task of engineering and operations. It is important that staff use the sources of information and drought tools available to them to ensure adequate monitoring. Because drought is the leading hazard of economic loss in the United States each year, monitoring regional and long-term trends within the United States will enable EID to be better prepared for drought. Local drought conditions can change very quickly, but if staff frequently monitors the climatic conditions that cause hydrologic drought, EID will be better equipped to manage District-wide concerns.

Drought Tools

Therefore, the two main tools appropriate to meet these goals of drought monitoring are as follows.

1) **National Drought Monitor** – This tool is available on a weekly basis as an email update, and consists of a map of the United States, a corresponding narrative of drought conditions, and weekly predictions of future conditions. This information is also available through the U.S. government's drought portal at the following website address.


   The drought portal also includes several indices and corresponding maps, including long term meteorological conditions, standardized precipitation, drought severity, surface water supply, soil moisture conditions, and crop moisture for short-term droughts.

2) **Supply Remaining Index (SRI Model)** – This tool was initially developed during the County-wide process of drought preparedness planning, and then further refined by EID. The SRI Model calculates a supply remaining index and yields a multi-colored “dashboard” display, which indicates the current drought stage. The tool is an Excel file that uses current and real-time data, including EID reservoir levels, the water year type as determined by the California Department of Water Resources, and the ENSO cycle from the National Oceanic and Atmospheric Administration’s Climate Prediction Center.

Both tools provide important considerations in the monitoring of possible drought events, and should be used collaboratively by engineering and operations staff, with the findings discussed at the periodic DRT meetings. In the end though, staff experience and knowledge regarding the District’s water supply system will always be an important component of the DRT analysis.

2.3 Interagency Coordination

The County’s Drought Interagency Coordination Committee includes regional partners and water purveyors. The team would meet monthly during a drought to discuss the issues of water supply and demand, conjunctive use, and environmental needs. EID staff should attend these coordination meetings, as designated by the General Manager.

MONITORING – Communication among agencies of their drought indicator status would allow each agency to understand the current conditions of the other water purveyors.

PUBLIC OUTREACH – Development of drought education tools, plus collaboration on public education and outreach, provides efficiency and consistency within the region.

---

1 ENSO is “El Niño Southern Oscillation,” which is an episode of oceanic cycles used to predict whether the Pacific Ocean will be in a La Niña or El Niño cycle – warm or cold episodes – that can influence weather patterns such as heavy precipitation or drought conditions in California and the western United States.
RESOURCE SHARING – Collaboration resources, including: staff, grant funding, monitoring tools, infrastructure, water, and educational outreach tools; would allow agencies to support each other efforts in the community.

2.4 Drought Guidelines and Definitions

There are a number of circumstances during a drought in which the District would be required to make and implement decisions that are not solely based upon water supply availability, such as how long to stay in a drought stage, and how demand reductions should be quantified. It is also important to clearly define in advance the base periods that will be employed for each user class during the drought event.

Overall Guidelines

Below is a list of drought guidelines developed to assist staff in managing the drought event.

1) The District will strive to stay within each stage of drought for a complete billing cycle (at least 2 months) for the equitable implementation of drought rates and effective public outreach.

2) Drought stage demand reductions will be quantified by output at the water treatment plants during all stages; however, in Stages 3 and 4 meter reads may also be necessary to determine compliance with individual allocations and reduction targets.

3) This Drought Action Plan should be reviewed and updated every 5 years (or as needed) due to changes in water supplies, operations, expected water demands or other relevant factors.

Base Period Definitions

Below is a list of base period definitions developed to assist staff with the implementation of conservation measures during the drought event.

1) The base period for single-family residential customers is defined as the District-wide average consumption per household – calculated using a three-year average of the consumption data for all single-family residential customers, divided by the total number of residential customers.

2) The base period for multi-family residential customers is defined as the District-wide average consumption per dwelling unit – calculated using a three-year average of the consumption data for all multi-family residential customers, divided by the total number of dwelling units.

3) The base period for commercial, industrial, and institutional customers, with meters serving both building and landscape, is defined as the three-year average of the individual customer’s consumption data.

4) The base period for landscape irrigation only customers is defined as the three-year average of the individual customer’s consumption data.

5) The base period for agricultural customers is defined by the District’s Irrigation Management Services (IMS) program – calculated using the onsite crop moisture measurements applied in the crop model, and the resulting irrigation recommendation for the specific site.

6) The base period for the remaining small farm and agricultural customers is defined as the five-year average of the individual customer’s consumption data.
El Dorado Irrigation District
Drought Action Plan

Early Actions

CROSS TRAINING – It is important that ongoing staff training be conducted before a drought occurs, as staffing may be necessary for the enforcement of water waste prohibition, enforcement of mandatory or prohibited conservation measures, and answering questions related to recycled water use. Staff ordinarily responsible for other duties may be temporarily reassigned to implement these drought-response activities.

BOARD UPDATES – The Board should be kept appraised of all drought monitoring and predicted water shortages. It is the responsibility of the General Manager to decide the best method for these updates.

PUBLIC OUTREACH TO ID 97 OWNERS – This updated Drought Action Plan modifies the drought stages and responses referred to in the Improvement District No. 97 Interim Agreement, which sets limits and minimum aesthetic flows in Clear Creek from Jenkinson Lake releases. Pursuant to the Interim Agreement, the District needs to “meet and confer” with the ID 97 interested parties to amend paragraph 10 of the agreement, which should now reference the modified drought stages and titles used in this updated Drought Action Plan.

- Background. The 4-Stage Water Supply Matrix and Water Shortage Response Measures – a copy of which can be found in Appendix D of the 2008 Drought Preparedness Plan – was in effect when the ID 97 Interim Agreement was adopted by the Board of Directors in 2005. Pursuant to this agreement, the flow rate in Clear Creek is reduced as the drought stages progress, from a maximum of 3 cubic-feet per second (cfs) down to a minimum of 1 cfs. When drought is imminent, notifications are to be sent to the ID 97 property owners that Clear Creek flows may be reduced with the drought stages.
3.0 Ongoing Activities

This Drought Action Plan addresses water management and customer service activities that would be modified during drought conditions. In this section, **Ongoing Actions** are defined as activities that are performed on a regular basis, even in non-drought conditions, that might change in the face of a drought being declared. Throughout the District, there are a number of ongoing activities related to drought management. It will be the responsibility of the DRT members to ensure that these activities continue to occur in their respective areas during non-drought conditions, in order to be ready for a declaration of drought. The following sub-sections refer to staff functions rather than departments, and include a brief description of these functions and their ongoing actions as they pertain to a drought.

3.1 Engineering and Operations

The primary responsibility of engineering and operations staff is to ensure the continued integrity of infrastructure throughout the District’s service area, in addition to actively monitoring and modeling potential drought conditions. Operations staff must also stay abreast of changes during drought conditions, such as lower pressures, increased sewer pipeline blockages, lower reservoir levels, changes in demand patterns, and other potential impacts. The environmental staff contributions to the District’s drought preparedness occur mostly prior to a drought event while conducting environmental reviews and permit preparation for proposed projects.

**Ongoing Actions**

1) Track regional weather predictions and monitor reservoir levels in conjunction with the dashboard drought risk assessment.

2) Gather information on drought management from other agencies.

3) Track scientific studies and reports documenting the effects of extended drought conditions on listed species.

4) Incorporate the results of various drought supply analyses and modeling when analyzing the environmental effects of proposed projects.

5) Examine the District’s infrastructure for leakage, and reduce losses where cost-effective.

6) Pursue the development of drought impact avoidance projects, if needed.

7) Investigate potential reservoir re-operation, and consider long-term adjustments to reservoir release rules.

8) Consider the environmental effects of long-term draw-down of reservoirs, such as air quality, soil/sedimentation, water quality, temperature, and other conditions that may affect the District’s ability to provide treated water.

9) Work with the County Water Agency and the El Dorado Water and Power Authority to facilitate additional water supply projects, if needed.

10) Collaborate with regional water management groups, such as the Regional Water Authority (RWA), and the Cosumnes, American, Bear, and Yuba Rivers group (CABY).

11) Maintain interagency coordination, primarily through the DICC, but also through participation in federal, state, and/or regional drought task forces.
**Ongoing Actions**

### 3.2 Finance and Customer Services

The primary responsibility of finance staff is to keep the District solvent when faced with the increased costs and potential for reduced revenues associated with a drought condition in the watershed. Along with other District employees, staff must be able to look into the future to assess possible staffing needs and potential sources of cost to the District. On the other side, finance staff must also be able to identify possible sources of income, or at the very least, a method of financing the additional efforts associated with managing drought.

**Ongoing Actions**

1) Establish procedures for implementing the drought rates.

2) Inform the public regarding potential drought rates *with public outreach*.

3) Establish a “drought contingency fund” for the expenses related to drought administration.

4) Enforce the water waste prohibition regulation *with legal and water efficiency*.

5) Educate customers on how to read their water meters in order to determine their own monthly usage during times of demand restrictions *with public outreach*.

6) Assist community members whose wells have gone dry due to drought conditions, to access drinking water through bulk water stations and key cards *with public outreach*.

### 3.3 Legal

The primary responsibility of administration and legal staff is to ensure that customer service continues as planned-for in drought conditions and that EID’s actions are legal and defensible. It is important that the administration and legal staff be appraised of policy and planning activities with regard to water supply, regional activities, and inter-agency planning.

**Ongoing Actions**

1) Ensure the District follows applicable state law when declaring drought conditions, and include citations to pertinent legal authority in drought-related Board actions.

2) Continue to enforce the water waste prohibition regulation *with water efficiency*.

3) Examine possible legal implications of dry reservoirs and canals during drought conditions, and associated liability at recreational lakes *with recreation and property*.

4) Examine the District’s Board Policies and Administrative Regulations for potential changes and/or additions for better drought management.

5) Investigate all dry-year water supply options such as water transfers, conjunctive use, and groundwater banking *with engineering and operations*.

6) Track legislation relating to drought, especially as it pertains to financing drought management, water transfers, and ground-water banking.

7) Urge county and city planners to consider the drought stages when implementing development and future planning scenarios.

8) Collaborate with regional water management groups, such as the Regional Water Authority (RWA); and the Cosumnes, American, Bear, and Yuba Rivers group (CABY) *with engineering and operations*. 
3.4 Public Outreach

The efforts of public outreach staff are integral to the implementation a successful Plan and management of a drought event. Public education is the most important activity when a drought does occur, because demand management will not be successful if customers are not adequately informed regarding the water situation and the requirements of the purveyor. The most important time for public outreach and education is at the beginning of Stage 1.

Ongoing Actions

1) Educate customers regarding water saving devices and practices - with water efficiency.
2) Educate customers regarding on the overall challenges of providing a reliable water supply in a semi-arid climate, as this will make imposition of drought rates more understandable.
3) Educate customers regarding drought stages through bill inserts or a printed message on the bill, an article in the bi-monthly newsletter, e-mail messages, and newspaper advertisements - with water efficiency.
4) Inform customers about potential drought rates - with finance and customer services.
5) Develop a webpage for “Drought Stage” information, including an easy-to-understand explanation of when a drought is called and when a drought has ended - with water efficiency.
6) Educate customers on how to read their water meters in order to determine their own monthly usage during times of demand restrictions - with finance and customer services.
7) Work with the DICC to educate community members, whose wells have gone dry due to drought conditions, about the availability of drinking water through bulk water stations with key card access - with customer services.

3.5 Recreation and Property

The challenges and responsibilities of recreation and property staff in the face of a drought are quite different from those of other EID functions. The primary concerns with recreation and property are the liabilities associated with water attractions in low water level conditions. These can vary from exposed rocks in reservoirs to increased danger of fires resulting from recreational use in campgrounds and day use areas. In addition, property staff can be involved with the siting and development of drought mitigation implementation projects.

Ongoing Actions

1) Consider alternative recreational strategies/opportunities for dry years.
2) Identify sensitive areas and outline management plans for these areas in dry years.
3) Examine possible legal implications of dry reservoirs and canals during drought conditions, and associated liability at recreational lakes - with legal.
4) Ensure adequate protection against catastrophic fires through vegetation management and homeowner education (adjacent to District facilities).
5) Inform customers of the mooring facility policy during drought.
6) Work with regional partners to identify areas of greatest fire risk.
3.6 Water Efficiency

Water efficiency staff should work closely with public outreach staff, as the activities required to meet water supply constraints are usually through the implementation of water efficiency practices or devices. Because there are ongoing mandated activities, a drought event will increase the number of tasks for which water efficiency staff are responsible. The Drought Preparedness Plan stipulated a number of water conservation actions, some of which are activities required of customers, such as not filling swimming pools; while some are simply guidelines for customers to help them save water.

Agricultural demands are an important consideration during drought events. The District’s Irrigation Management Service (IMS) program is not required for agricultural customers, but staff should encourage participation in the IMS program prior to a drought, including the education of landowners with regard to individual drought planning. A total of 2,000 acre-feet of water is estimated to be saved each year by the IMS program, as verified by the State Water Resources Control Board in 1986.2

Ongoing Actions

1) Identify and pursue drought assistance grants available for water efficiency programs.
2) Enforce the water waste prohibition regulation - with legal and customer services.
3) Offer water efficiency rebate programs and complimentary water surveys as staff, budget, and grant funding allows.
4) Continue to implement the California Urban Water Conservation Council’s Best Management Practices, as applicable and as required by the U. S. Bureau of Reclamation.
5) Maintain the IMS program for commercial agriculture customers.
6) Educate customers regarding drought stages through bill inserts or a printed message on the bill, an article in the bi-monthly newsletter, e-mail messages, and newspaper advertisements - with public outreach.
7) Develop a webpage for “Drought Stage” information, including an easy-to-understand explanation of when a drought is called and when a drought has ended - with public outreach.

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2 Source: EID’s Water Supply Master Plan, Administrative Draft, December 2001, Pages 3-36 and 3-38. As part of the South Fork American River (SOFAR) water rights permitting process, the 2,000 acre-feet of IMS program water savings was verified in 1986 by the SWRCB; and later acknowledged in an SWRCB letter dated January 1989.
4.0  Stage 1 – Water Alert

A drought Stage 1 is considered a water alert, where water supplies are only slightly restricted. The response actions are intended to initiate public awareness of a possible water shortage in the near future, and to encourage water efficiency practices. Stage 1 actions target up to a 15 percent demand reduction through the implementation of voluntary measures. The following New Actions outlined in this section are activities that must be performed during this stage of a drought declaration.

At the beginning of a dry season there is no certainty as to whether the conditions will persist into a full drought. Accordingly, the initial phase of conservation is voluntary on the part of the customer, and the use of recycled water continues as normal. Staff should implement an outreach program to educate customers regarding the status of District water supplies, and the predicted water shortage; however, the education should be done without alarming customers as there is not yet a true emergency. This outreach can be complemented by the actions of the Department of Water Resources and the Regional Water Authority. To avoid confusion though, it is important to educate our customers that due to the District’s multiple water sources and integrated infrastructure, the rest of the region and the state might be worse off than the District. Raising public awareness therefore represents one of the most important components of this Plan.

4.1 Engineering and Operations

New Actions

1) Monitor reservoir levels in coordination with dashboard drought risk assessment on a monthly basis.

2) Alert ditch customers of potential cutbacks, reminding them Item No. A-8 of their ditch application for service, and reduce potable water releases from valve blow-offs, if possible - with customer services.

3) Alert the Improvement District No. 97 property owners listed on the current County assessment roll of the water alert declaration, reminding them of paragraph 10 of the 2005 Interim Agreement for ID 97 and possible accommodations to decrease the releases to Clear Creek should the drought conditions continue - with legal.

4) Monitor water demands weekly at the water treatment plant to assess the amount of water savings accomplished.

5) Prepare to eliminate supplementation of potable water to the recycled water system - with customer services.

6) Identify areas of low pressure, both present and projected, and communicate this to local fire protection agencies.

7) Increase monitoring of canals and ditches for water theft.

8) Refer to the draft ditch operations guidelines in Appendix E of the Drought Preparedness Plan for further information on ditch management during a drought.

9) Alert regulatory agencies to the possibility of decreased stream flow.

10) Examine Deer Creek discharge requirements; and assess the need to work with stakeholders and the State Water Resources Control Board to temporarily reduce flows due to extraordinary circumstances.
4.2 Finance and Customer Services

New Actions

1) Implement the Stage 1 drought rates as approved by Board action on March 26, 2012.
   a) Add 15% drought surcharge to commodity rates only.
   b) Apply to current water rates on all user classes.
2) Implement a project code or charge number for use by all employees to track time and expenses for all drought-related activities.
3) Alert ditch customers of potential cutbacks and remind them of Item No. A-8 of their ditch application for service - with engineering and operations.
4) Identify baseline and target levels of water usage per user class - with water efficiency.
5) Request assistance in programming and obtaining database information appropriate to the drought stage, customer requests, and cutback priorities.

4.3 Legal

New Actions

1) When determined appropriate by the DRT, prepare materials for the declaration of a water alert for approval by the Board of Directors, consistent with applicable state law - with engineering and operations.
2) Alert the Improvement District No. 97 property owners listed on the current County assessment roll of the water alert declaration, reminding them of paragraph 10 of the 2005 Interim Agreement for ID 97 and possible accommodations to decrease the releases to Clear Creek should the drought conditions continue - with engineering and operations.
3) Track legislation relating to drought, especially as pertains to the management of water transfers/ground-water banking, and financing drought management.

4.4 Public Outreach

New Actions

1) Create educational information regarding the stage of drought, what is expected from customers, and the consequences if demand reduction goals are not met.
2) Ensure that customers are aware that drought conditions may worsen quickly, causing rapid progression through the drought stages.
3) Educate recycled water users and community leaders on the consequences of ceasing potable water supplementation during a drought Stage 2.
4) Ensure that the public is aware of the water waste regulation and all associated penalties - with water efficiency.
5) Work with local and regional newspapers to secure op-ed space as-needed for public information and water supply/drought education.
6) Maintain drought information on website, and update throughout the drought.
7) Work with local restaurants to provide “serve if requested” table tents for glasses of drinking water - with water efficiency.
4.5 Recreation and Property

New Actions

1) Implement new mooring facility policy when warranted by low lake levels.

4.6 Water Efficiency

New Actions

1) Increase patrols for water waste, and enforce Administrative Regulation (AR) 1041, Water Waste Prohibition, with the following actions:
   a) First reported failure to comply with AR – Issue a written warning notice of the water waste violation, and request that action be taken to stop the waste.
   b) Second reported failure to comply with AR – Issue second written notice, and levy a fine on the violator’s water bill of $45 or 20% of the two-month water bill, up to $100, depending upon the severity of the violation.
   c) Third reported failure to comply with AR within a 24-month period – the District may discontinue service of the water supply that has been wasted (raw, potable or recycled).
   d) If service is discontinued due to violations of the AR, a reconnection fee of $100 per disconnection event will be charged. Reconnection is also subject to satisfactory remediation of the water waste violation.

2) Increase educational efforts regarding water efficiency practices - with public outreach.

3) Identify base period and target levels of water usage per user class - with customer services.

4) Work with local restaurants to provide “serve if requested” table tents for glasses of drinking water - with public outreach.

5) Voluntary: Request customer compliance with these water saving guidelines.
   a) Apply irrigation water during evening and early morning hours only (9 pm to 6 am);
   b) Use weather information to regulate irrigation;
   c) Inspect irrigation system for leaks and then repair or replace;
   d) Adjust sprinkler run times to avoid runoff; and
   e) Do not refill a swimming pool that has been drained.
5.0 Stage 2 – Water Warning

Drought Stage 2 action items are intended to increase public understanding of worsening water supply conditions, encourage community-oriented voluntary conservation measures, enforce some mandatory conservation measures, and implement water use reduction measures to decrease “normal” demand by up to 30 percent. Stage 2 activities include a continuation of activities described under Stage 1 and new actions. The achievement of the water use reduction goal is measured by overall performance of the entire customer population, based on EID production meters at the three main potable water treatment plants. It is important to note that user category demand reduction goals are not by individual customer, but are the goal for the customer category.

At the point of calling a Stage 2 Drought, the dashboard indicator alerts the DRT that the drought will continue and worsen; and customers are asked to contribute to a system-wide demand reduction of up to 30%. It is at this stage that potable water supplements to the recycled water system should be curtailed. The major emphasis by public outreach and customer service is to elevate customer awareness of the supply situation and encourage continued savings to achieve the 30% demand reduction goal.

5.1 Engineering and Operations

New Actions

1) Assess the need for a temporary change in the point of diversion for water taken from Folsom Reservoir to further upstream on the South Fork of the American River, possibly to supplement Sly Park’s Jenkinson Lake through the Hazel Creek Tunnel - with legal.

2) Stop all potable water supplementation to recycled water system.

3) Examine the risk of solids loading, line blocks, and other low-flow hazards, and then take appropriate action.

4) Monitor reservoir levels in coordination with dashboard drought risk assessment.

5) Provide 30-days written notice to all Improvement District No. 97 property owners listed on the current County assessment roll, notifying them of the water warning declaration and the planned decrease of releases into Clear Creek; and take to the Board for approval or ratification at the first available regular Board meeting - with legal.

   a) After the 30-day notification period, decrease releases into Clear Creek to no more than 2.0 cfs.

6) Begin examination of source water quality for increasingly concentrated pollutants and higher temperatures.

7) Monitor water demands weekly at the water treatment plant to assess the amount of water savings accomplished.

8) Refrain from releasing water from valve blow-offs.

9) Seek alternate water sources, other than District potable water, for portable construction water tanks used for construction dust control.

10) Review all regulatory requirements relating to water quality and stream flow; and investigate how the District might be affected by these regulations in case of extreme drought.

11) Monitor source water quality for increasingly concentrated pollutants and higher temperatures.
5.2 Finance and Customer Services

*New Actions*

1) Implement the Stage 2 drought rates as approved by Board action on March 26, 2012.
   a) Add 30% drought surcharge to commodity rates only.
   b) Apply to water rates in effect prior to drought declaration, and on all user classes.
2) Continue to monitor income based on customer deliveries and the financial solvency of the
   drought management activities.
3) Assess the fiscal consequences and present need for a larger drought management staff,
   particularly of temporary workers.
4) Consider adding customer service representatives to help with answering phones, assisting in
   customer questions regarding drought restrictions, and possibly extending hours later into
   the evening.

5.3 Legal

*New Actions*

1) When determined appropriate by the DRT, prepare materials for the declaration of a water
   warning for approval by the Board of Directors, consistent with applicable state law - with
   engineering and operations.
2) Assess the need for a temporary change in the point of diversion for water taken from
   Folsom Reservoir to further upstream on the South Fork of the American River, possibly to
   supplement Sly Park’s Jenkinson Lake through the Hazel Creek Tunnel - with engineering and
   operations.
3) Provide 30-days written notice to all Improvement District No. 97 property owners listed on
   the current County assessment roll, notifying them of the water warning declaration and the
   planned decrease of releases into Clear Creek; and take to the Board for approval or
   ratification at the first available regular Board meeting - with engineering and operations.
4) Review options for Area-of-Origin water rights.
5) Seek exceptions to U. S. Bureau of Reclamation contract shortage criteria, if needed.

5.4 Public Outreach

*New Actions*

1) Work with regional partners to spread the word about drought and fire danger.
2) Secure an op-ed space in local and regional newspapers for an essay on water supply and use
   restriction in El Dorado County.
3) Continue to update the Drought Stage website link, including weekly updates on community
   demand response.
4) Assist the City of Placerville with water use reduction targets - with water efficiency.
5.5 Recreation and Property

New Actions

1) Halt the use of fire pits and barbeques within the District’s recreational areas.

2) Urge caution when filming within the District’s recreational areas due to elevated fire danger.

5.6 Water Efficiency

New Actions

1) Coordinate with the Sacramento region through RWA membership, especially water purveyors with a common border, in order to coordinate educational efforts to better reach customers.

2) Identify the top 10% of residential and CII\(^3\) users, and target these customers with water efficiency outreach - with customer services.

3) Voluntary: Inform customers of these targeted levels of water use during a Stage 2 drought - with public outreach.
   a) Indoor residential use – approximately 70% of base period.
   b) Irrigation only use – approximately 55% of base period.
   c) CII use – approximately 80% of base period.

4) Voluntary: Ask customers to refrain from using District-supplied water for these purposes - with public outreach.
   a) Watering new or replacement turf.
   b) Irrigating new agricultural plantings.
   c) Filling any new swimming pool.
   d) Serving glasses of drinking water automatically at dining establishments.
   e) Using water from a fire hydrant – except for fighting fires, essential water quality uses, and toxic clean-up purposes.

5) Offer assistance to the City of Placerville to help meet their water use reduction targets - with engineering and operations.

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\(^3\) CII is defined as all commercial, industrial, and institutional customers; which includes businesses, schools, community service districts, owner associations, churches, and public buildings and grounds.
6.0 Stage 3 - Water Crisis

The objective of Drought Stage 3 actions are to reduce District-wide water demand by up to 50% through effective and consistent public outreach, enforce extensive restrictions of water use, and implement water rationing. Protection of water supply for public health and safety purposes is the primary objective during Stage 3 drought conditions. This stage of drought will require much more staff time for policy enforcement with the public, and much greater inter-agency coordination. Because of the mandatory restrictions, emergency management agency notification is required, and public outreach and education will be key in achieving the water savings goal in Stage 3.

6.1 Engineering and Operations

*New Actions*

1) If needed, implement a temporary change in the point of diversion for water taken from Folsom Reservoir to further upstream on the South Fork of the American River, possibly to supplement Sly Park’s Jenkinson Lake through the Hazel Creek Tunnel - *with legal*.

2) As needed, implement and monitor emergency water distribution.

3) EID’s Director of Operations is responsible for notifying the El Dorado County Emergency Management Agency (EMA) of any mandatory requirements for water use reduction.

   a) Staff should consider the escalation of emergency management at the beginning of this stage.

4) Also contact the County’s EMA regarding fire protection directives that are being implemented within the county.

5) Provide 30-days written notice to all Improvement District No. 97 property owners listed on the current County assessment roll, notifying them of the water crisis declaration, and of the planned decrease of releases into Clear Creek; and take to the Board for approval or ratification at the first available regular Board meeting - *with legal*.

   a) After the 30-day notification period, decrease releases into Clear Creek to no more than 1.5 cfs.

6.2 Finance and Customer Services

*New Actions*

1) Implement the Stage 3 drought rates as approved by Board action on March 26, 2012.

   a) Add 50% drought surcharge to commodity rates only.

   b) Apply to water rates in effect prior to drought declaration, and on all user classes.

6.3 Legal

*New Actions*

1) When determined appropriate by the DRT, prepare materials for the declaration of a water crisis for approval by the Board of Directors, consistent with applicable state law - *with engineering and operations*.

2) If needed, implement a temporary change in the point of diversion for water taken from Folsom Reservoir to further upstream on the South Fork of the American River, possibly to
supplement Sly Park’s Jenkinson Lake through the Hazel Creek Tunnel - with engineering and operations.

3) Provide 30-days written notice to all Improvement District No. 97 property owners listed on the current County assessment roll, notifying them of the water crisis declaration, and of the planned decrease of releases into Clear Creek; and take to the Board for approval or ratification at the first available regular Board meeting - with engineering and operations.

6.4 Public Outreach

New Actions

1) Secure an op-ed and/or advertising space in local and regional newspapers to publicize mandatory water restrictions within the service area of the District.

2) Use authorized email addresses and the “Rapid Notify” mass notification system as necessary to advise customers of water use restrictions or other drought alerts.

6.5 Recreation and Property

New Actions

1) Remain alert to fire danger and water pressure considerations at outlying facilities; coordinate with other agencies to ensure a consistent public message.

2) Protect identified sensitive areas from overuse in extreme dry periods.

3) Limit or restrict filming within the District’s recreational areas due to severe fire danger.

6.6 Water Efficiency

New Actions

Inform customers of these mandatory conservation measures in Stage 3 - with public outreach.

1) **Prohibited**: Filling empty swimming pools with District-supplied potable water.

2) **Prohibited**: Washing of vehicles (automobiles, recreational vehicles, trailers, etc.) or boats with District-supplied potable water.

3) **Prohibited**: Filling or re-filling ponds, lakes, and other non-irrigation water features with District-supplied potable water.

4) **Mandatory**: All outside irrigation – including garden, lawn, landscape, pasture, parks, golf courses, school grounds, and public grounds – shall ONLY occur:
   a) Between the hours of 9:00 pm and 6:00 am.
   b) For **even** numbered addresses on Sunday, Wednesday, and Friday.
   c) For **odd** numbered addresses on Tuesday, Thursday, and Saturday.

5) **Prohibited**: IMS customers are not to use more water than recommended by the IMS program schedule.

6) **Prohibited**: Mist systems.

7) Enforce the water waste prohibition regulation with the help of City and County law enforcement, if needed; and coordinate operational safety with HR-Safety/Security staff.
7.0 Stage 4 – Water Emergency

The objective of Drought Stage 4 actions are to further reduce water demands in order to achieve a greater than 50% reduction, which may be accomplished through effective and consistent public outreach, enforcement of extensive restrictions on water use, and the implementation of water rationing. Protection of the remaining water supply for public health and safety purposes is the District’s primary objective during Stage 4 drought conditions. This stage of drought will require considerable staff time for enforcement, and much greater inter-agency coordination. Because of the mandatory restrictions, public outreach and education are key to meeting the water savings goals.

7.1 Engineering and Operations

New Actions

1) If needed, implement a temporary change in the point of diversion for water taken from Folsom Reservoir to further upstream on the South Fork of the American River, possibly to supplement Sly Park’s Jenkinson Lake through the Hazel Creek Tunnel.

2) EID’s Director of Operations is responsible for notifying the El Dorado County Emergency Management Agency of mandatory water use reduction requirements.

3) Continue to coordinate with the County Emergency Management Agency regarding any fire protection directives that are being implemented within the county.

4) Provide 30-days written notice to all Improvement District No. 97 property owners listed on the current County assessment roll, notifying them of the water emergency declaration, and of the planned decrease of releases into Clear Creek; and take to the Board for approval or ratification at the first available regular Board meeting – with legal.
   a) Decrease releases into Clear Creek to no more than 1.0 cfs.

7.2 Finance and Customer Services

New Actions

1) None at this time.

7.3 Legal

New Actions

1) When determined appropriate by the DRT, prepare materials for the declaration of a water emergency for approval by the Board of Directors, consistent with applicable state law – with engineering and operations.

2) If needed, implement a temporary change in the point of diversion for water taken from Folsom Reservoir to further upstream on the South Fork of the American River, possibly to supplement Sly Park’s Jenkinson Lake through the Hazel Creek Tunnel – with engineering and operations.

3) Provide 30-days written notice to all Improvement District No. 97 property owners listed on the current County assessment roll, notifying them of the water emergency declaration, and of the planned decrease of releases into Clear Creek; and take to the Board for approval or ratification at the first available regular Board meeting – with engineering and operations.
7.4 Public Outreach

New Actions

1) Secure an op-ed and/or advertising space in local and regional newspapers to publicize mandatory water restrictions within the water service area of the District.

2) Use authorized email addresses and the “Rapid Notify” mass notification system as necessary to advise customers of water use restrictions or other drought alerts.

7.5 Recreation and Property

New Actions

1) Remain alert to fire danger and water pressure considerations at outlying facilities; coordinate with other agencies to ensure consistent public message.

2) Protect identified sensitive areas from overuse in extreme dry periods.

3) Restrict filming within the District’s recreational areas due to extreme fire danger.

7.6 Water Efficiency

New Actions

1) Prohibited: Automatic sprinklers for the irrigation of existing turf, ornamental plants, garden or landscaped areas.
   a) Watering may ONLY occur by hand-held hose with shut-off nozzle or by a drip irrigation system.

2) Mandatory: Single-family residential meters serving detached homes are granted a 553 cubic-foot per resident allotment per bimonthly billing cycle for “health and safety,” which is 68 gallons per person per day.4
   a) Allotments can be increased for additional residents and health-related issues.

3) Mandatory: Multi-family residential meters serving multiple units are granted a 471 cubic-foot per resident allotment per bimonthly billing cycle for “health and safety,” which is 58 gallons per person per day.5
   a) Allotments can be increased for additional residents and health-related issues.

4) Mandatory: Irrigation-only meters must reduce their usage by 65%, based upon their usage during the same billing cycle in the base period.

5) Mandatory: Non-residential and agricultural meters must reduce their usage by 40%, based upon their usage during the same billing cycle in the base period.

6) Allowed: Vital healthcare and public safety uses are exempt.


8.0 Post-Drought Actions

8.1 The End of a Drought

Coming out of a drought can occur quickly or slowly, depending on the weather and the storage accumulated with any precipitation. It is very important to make clear to the public that one good storm will not reverse weeks or months of dry weather. The conditions that end a drought require the filling of reservoirs, which usually occurs over time. Precipitation that occurs during the deepest of droughts can potentially put the District in a less severe stage of drought. If this occurs, and the DRT determines the present situation and probable future indicate a lessening of the drought, staff may recommend reducing the drought stage to the previous stage.

In the event that the drought severity lessens, it must be made explicitly clear to the public which stage the District has moved to, why the change was made, and what the measurements are based upon. Effective public education will minimize conflicts with regard to fines for mandatory cutbacks, and for health and safety concerns. In addition, a lessening of drought severity must be communicated clearly to all staff, especially those with regular public interaction.

- There are several scenarios that would lead the District to either declare the end of a drought or announce a less severe drought stage, including but not limited to, the following three cases.

1) **Significant rainfall and snowpack** – While it is highly unlikely for one storm to end drought conditions, it is possible that a series of storms over a several-week period could fill Jenkinson Lake and replenish snowpack that could fill the Project 184 reservoirs in the spring. This scenario would assure staff that the drought has ended, and that a return to “normal” conditions is a responsible decision.

2) **Significant rainfall but no snow** – It is also possible that Jenkinson Lake could fill from a series of storms, but little snowpack accumulates due to warm temperatures. In this scenario, there would be little snowpack to keep Jenkinson Lake full into the summer, and the Project 184 reservoirs may not fill. In this case, the water supply is not secure for the next year, and staff may recommend a less severe drought stage rather than a return to “normal” conditions.

3) **Average rainfall and snowpack** – Another scenario could be the occurrence of a “normal” water year, with average precipitation and snowpack, following weeks or months of drought. These conditions may not fill the reservoirs adequately to assure staff that ending a drought declaration is the appropriate action. In this case, the drought stage may be lessened or stay the same, as it is important to remember that a year of average precipitation may not immediately result in “normal” conditions.

In any case, declaring the end of a drought depends in large part upon the judgment of staff, but the Supply Remaining Index tool (SRI Model) can also be used to make this determination. Refer to Section 2.2, Drought Monitoring and Modeling for more information on the SRI Model.

While this Drought Action Plan serves as a blueprint for actions in each stage of drought, it is not a rigid prescription for when and how to call a drought, or what actions to take in response. Those decisions must be made by informed and experienced staff, based upon the situation at the time, and approved by the Board of Directors.
8.2 Lessons Learned

When a drought is completely over, and District operations are back to normal, it is important to review what worked, what did not work, and how the overall drought response can be improved. The first step must be an examination of the stages, objectives, and response actions. Did the ongoing and new actions in this Plan work? Was there public confusion? If so, why? Did the mandatory actions cause problems due to uncertainty in implementation or ambiguity in description? A discussion among all DRT members and implementing staff is imperative to get a complete picture on these questions. Likewise, it may be important to repeat the same process with the County's Drought Interagency Coordination Committee, and to involve customers in the dialogue as well.

8.3 Financial Analysis

The District should analyze the financial considerations following a drought, which is an important way to gauge the success of drought management activities. A detailed financial assessment of both the costs and revenue incurred during a drought are important.

- Below are two scenarios of drought finances, along with their impacts on the District.

1) **Costs to the District** – When the drought Stage 1 was declared, a charge number should have been established for all new drought activities, including: permanent staff time, temporary worker time, special materials, and other costs associated with drought management. All costs associated with the drought must be charged to this number in order to completely account for the additional costs incurred during drought. It is important to know these costs, as the knowledge will assist the District in gauging the adequacy of the drought surcharges.

2) **Revenues for the District** – A drought surcharge has been added to the existing rates in order to compensate for decreased water usage by customers due to conservation requests and restrictions. Finance staff should analyze how the additional revenue from the “drought rates” balanced-out against the additional costs to the District. The drought revenue should have compensated for the water conserved and covered the additional drought costs.

8.4 Report to the Board

The concluding task in any drought management effort is the final report to the Board, especially summarizing the costs and revenues described above. Because the Board reports directly to the population served by the District, it is important for the Board members to be able to convey to their constituents the successes of the District’s drought management. This report may also be released to all District customers, as successful drought management is not possible without customer involvement, cooperation, and support.
EL DORADO IRRIGATION DISTRICT

Subject:

Consideration to award a contract to California Diesel and Power for the purchase of four stationary generators to be installed at water facilities in the not-to-exceed amount of $195,427 and authorize total funding of $380,694 for Project No. 13008.01

Previous Board Action:

October 15, 2013- The Board adopted the 2014-2018 Capital Improvement Plan

Board Policies (BP) and Administrative Regulations (AR), and Board Authority:

BP 3060 requires Board approval for all purchases over $50,000. AR 3061.1(a)(1) provides that competitive sealed bids shall be awarded to the lowest responsible and responsive bidder.

Summary of Issue:

Several facilities within the District’s water system require backup power generators for the purposes of providing temporary power during power outages. The Water Generator Replacement program is an annual CIP program in which water facilities are evaluated and scheduled for either new installation or replacement generators as necessary.

New installations and replacing generators which are past their useful life will reduce the potential of water service outages, provides fire flow protection, and reduces the risk to public health.

Staff Analysis/Evaluation:

A District staff team was assembled comprising members from engineering, water distribution system operations, and fleet maintenance. The team performed an evaluation of the 38 water pump stations and facilities and determined the facilities in need of a new or replacement generator. The evaluation resulted in identification of four facilities requiring new generators. These facilities are Oro Loma, South Pointe, and Thorson pump stations and the Outingdale Water Treatment Plant. The Pump stations were selected as the highest priority because they provide flow to fire hydrants for fire flow purposes, in addition to meeting normal customer demands. Also, due to a recent failing county air quality inspection, a fifth generator was needed immediately for the Strawberry Water Treatment plant, as discussed further.

Oro Loma Pump Station
The Oro Loma Pump Station is located near Gold Hill a mile west of the intersection of Cold Springs Road and Gold Hill Road and serves 40 customers. The pump station is located in an easement of a residential property. An additional easement agreement was acquired by staff from
the residential property owners to accommodate the additional land needed to place a new permanent generator adjacent to the existing pump station. The pump station currently does not have backup power and is in need of a backup generator to provide continuous power for water service reliability and fire flow protection. Staff has determined that a 250 KW diesel generator should be installed to provide adequate back up power.

**South Pointe Pump Station**
The South Pointe Pump Station is located in the northern El Dorado Hills area in the South Pointe development near the intersection of South Pointe Drive and La Sierra Drive and serves 25 customers. The pump station is located on an easement of a residential property. An additional easement agreement was acquired by staff from the residential property owners to accommodate the additional land needed to place a new permanent generator adjacent to the existing pump station. The pump station currently does not have backup power and is in need of a backup generator to provide continuous power for water service reliability and fire flow protection. Staff has determined that a 125 KW diesel generator should be installed to provide adequate back up power.

**Thorson Pump Station**
The Thorson Pump Station is located six miles east of Diamond Spring off Pleasant Valley road near the intersection of Thorson drive and Sigwart Drive and serves 19 customers. The pump station is located on an easement of a residential property. The existing easement has enough space to accommodate the additional land needed to place a new permanent generator adjacent to the existing pump station. The pump station currently does not have backup power and is in need of a backup generator to provide continuous power for water service reliability and fire flow protection. Staff has determined that a 200 KW diesel generator should be installed to provide adequate back up power.

**Outingdale Water Treatment Plant**
The Outingdale Water Treatment Plant is located three miles south west of Summerset off Mount Aukum Road near the intersection of Outingdale Road and River Mist Road and serves 199 customers. The water treatment plant currently has an undersized and old portable temporary backup generator that needs to be replaced with a permanent backup generator to provide enough continuous power for the community water demands including fire flow protection. Staff has determined that a 150 KW diesel generator should be installed to provide adequate back up power. Standby generators are a regulatory requirement for water treatment facilities.

**Strawberry Water Treatment Plant**
The Strawberry Water Treatment Plant is located a half mile east of Strawberry Lodge off US Highway 50 near the intersection of US Highway 50 and Cedar Street and serves 150 customers. The water treatment plant had a backup generator that was converted from a portable. This generator was not originally planned to be replaced; however during a recent inspection by the El Dorado County Air Quality Management District (AQMD) the generator failed emissions inspection and the District was fined. Thus, the converted generator did not meet the emission standards as set by the AQMD and needed to be replaced with a permanent generator to provide continuous power for the community water demands including fire flow protection. Staff determined that a 150 KW diesel generator should be installed to provide adequate back up power.
power. In order to receive a reduced fine, the District agreed to immediately begin the process to replace the generator.

In September 2013, a generator was ordered from California Diesel and Power (CDP) for $46,824. The purchase was authorized by the General Manager due to the immediate need for regulatory compliance. Funding for the purchase and installation cost of the Strawberry generator is included in the total funding request for this item.

Bidding Process
Engineering staff worked with operations staff to develop a specification which delineated the requirements for permanent generators. The specification was sent out for bidding of four generators and in July 2013 four bids were received as follows:

<table>
<thead>
<tr>
<th>Company</th>
<th>Bid Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Diesel and Power</td>
<td>$180,951</td>
</tr>
<tr>
<td>Energy Systems</td>
<td>$191,200</td>
</tr>
<tr>
<td>Leete Generators</td>
<td>$255,730</td>
</tr>
<tr>
<td>Colicutt Energy Services Inc.</td>
<td>$334,685</td>
</tr>
</tbody>
</table>

The bids were reviewed for responsiveness and California Diesel and Power (CDP) was determined to have the lowest most responsive bid (see attached bid summary). CDP will supply the generators and the installation will be performed by in-house District crews. Since CDP was the lowest responsible bidder for the four planned generators, the Strawberry generator was purchased based on the original bid from CDP.

Environmental Review
Staff has determined that the project is exempt from the California Environmental Quality Act (CEQA) as a Class 3 exemption (New Construction of Small Structures), pursuant to Section 15303 of the CEQA Guidelines. Staff will file the Notice of Exemption immediately following approval of the project by the Board.

Funding:
Additional funding is needed for installation such as conduits, wiring, concrete pedestals, capitalized labor, easements, and permits. Funding for the purchase and installation of the stationary generators is from Water Rates (100%).

Funding Summary
California Power and Diesel Bid (four generators) $180,951
Tax (8%) 14,476
Capitalized labor (in-house installation and administration) 55,556
Permits and Right of Way 4,700
Materials, concrete, etc. 56,884
Contingency 14,884
Strawberry generator purchase and installation 53,243
Total requested funding $380,694
Consequences of Postponing the Project

Project prioritization, and deferral when appropriate, is part of staff’s analysis of any project under development. The implications of postponing the Project have been analyzed for financial and service reliability risk. If the Project were delayed, the District would continue to not have the ability to provide water service, including fire suppression pressure and flow during power outage periods affecting residential communities of 19 – 200 service connections. The worst case scenario would be a fire and associated power outage that would render the fire hydrants in the area useless.

Assuming a one-year postponement of the Project, the District would receive approximately $1,903 in interest on cash holdings that would otherwise have been used to for purchasing and installing the generator. However, there would be an estimated $18,420 in additional costs to the District associated with the one year delay, resulting in an estimated net cost-of-delay to the District of $16,517. The estimated cost-of-delay is detailed in the table below.

<table>
<thead>
<tr>
<th>Breakdown</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest savings on $380,694 at 0.5%</td>
<td>($1903)</td>
</tr>
<tr>
<td>Review specification, revise and re-bid the Project</td>
<td>7,000</td>
</tr>
<tr>
<td>Install and purchase cost inflation projected at 3% of $380,694</td>
<td>11,420</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$16,517</strong></td>
</tr>
</tbody>
</table>

**Board Decision/Options:**
Option 1: Award a contract to California Diesel and Power for the purchase of four stationary generators to be installed at water facilities in the not-to-exceed amount of $195,427 and authorize total funding of $380,694 for Project No. 13008.01

Option 2: Take other action as directed by the Board

Option 3: Take no action

**Staff/General Manager’s Recommendation:**
Option 1

**Support Documents Attached:**
A. Bid Summary
B. CIP Summary
C. California Diesel and Power Bid sheet
D. CEQA Notice of Exemption
Tim Sullivan
Senior Engineer, Wastewater Division
Engineering Department

Dan Corcoran
Environmental Manager

Cindy Megerdigan
Manager, Water/Hydro Division
Engineering Department

Brian Mueller
Director of Engineering
Engineering Department

Mark Price
Director of Finance
Finance Department

Jim Abercrombie
General Manager
## SUMMARY OF BIDS RECEIVED

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>WORK OR MATERIAL</th>
<th>QUANTITY</th>
<th>UNIT PRICE (FIGURES)</th>
<th>AMOUNT (FIGURES)</th>
<th>UNIT PRICE (FIGURES)</th>
<th>AMOUNT (FIGURES)</th>
<th>UNIT PRICE (FIGURES)</th>
<th>AMOUNT (FIGURES)</th>
<th>UNIT PRICE (FIGURES)</th>
<th>AMOUNT (FIGURES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>One (1) 250 kW Generator</td>
<td>1</td>
<td>57,353.00</td>
<td>57,353.00</td>
<td>58,300.00</td>
<td>58,300.00</td>
<td>57,720.00</td>
<td>57,720.00</td>
<td>81,700.00</td>
<td>81,700.00</td>
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<tr>
<td>2</td>
<td>One (1) 200 kW Generator</td>
<td>1</td>
<td>43,725.00</td>
<td>43,725.00</td>
<td>45,500.00</td>
<td>45,500.00</td>
<td>47,400.00</td>
<td>47,400.00</td>
<td>89,474.00</td>
<td>89,474.00</td>
</tr>
<tr>
<td>3</td>
<td>One (1) 150 kW Generator</td>
<td>1</td>
<td>43,105.00</td>
<td>43,105.00</td>
<td>41,700.00</td>
<td>41,700.00</td>
<td>44,000.00</td>
<td>44,000.00</td>
<td>88,474.00</td>
<td>88,474.00</td>
</tr>
<tr>
<td>4</td>
<td>One (1) 125 kW Generator</td>
<td>1</td>
<td>35,773.00</td>
<td>35,773.00</td>
<td>41,700.00</td>
<td>41,700.00</td>
<td>52,630.00</td>
<td>52,630.00</td>
<td>74,906.00</td>
<td>74,906.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>190,911.00</strong></td>
<td></td>
<td><strong>191,200.00</strong></td>
<td></td>
<td><strong>255,730.00</strong></td>
<td></td>
<td><strong>284,885.00</strong></td>
</tr>
</tbody>
</table>

Footnote A

This tabulation represents a true and complete summary of bids received by El Dorado Irrigation District.

Project NO.: Contract No. P13-02

Prepared by: Jacqui Noel

District Contract Management

Submitted by: Tim Sullivan, P.E., ASCE, Project Engineer
The District does not maintain adequate emergency back-up power for many of the water pump stations and treatment facilities. In addition, some generators are at the end of their service life and are in need of replacement.

In 2013 four generators were purchased and installed by in-house staff of which one generator was a replacement at a water treatment facility and three were new installations for pumps stations that had no previous backup power. Staff intends to continue this program annually until a substantially reliable level of backup power is present in all critical locations.

Basis for Priority:
Treatment facilities and many of the pump stations supply fire hydrants yet do not have standby back-up power, posing significant public safety risk.

Project Financial Summary:

| Funded to Date: | $15,000 | Expenditures through end of year: | $225,362 |
| Spent to Date: | $5,352 | 2014 - 2018 Planned Expenditures: | $750,000 |
| Cash flow through end of year: | $220,000 | Total Project Estimate: | $975,352 |
| Project Balance | $(210,352) | Additional Funding Required | $960,352 |

Description of Work Estimated Annual Expenditures

<table>
<thead>
<tr>
<th>Description of Work</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study/Planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$</td>
</tr>
<tr>
<td>Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$</td>
</tr>
<tr>
<td>Construction</td>
<td>$250,000</td>
<td>$250,000</td>
<td>$125,000</td>
<td>$125,000</td>
<td></td>
<td>$750,000</td>
</tr>
</tbody>
</table>

| TOTAL               | $250,000 | $250,000 | $125,000 | $125,000 |     | $750,000 |

<table>
<thead>
<tr>
<th>Funding Sources</th>
<th>Percentage</th>
<th>2014</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Rates</td>
<td>100%</td>
<td></td>
<td>$460,352</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td></td>
<td>$460,352</td>
</tr>
</tbody>
</table>

Funding Comments:
Exhibit A – Bid Schedule

THIS BID IS SUBMITTED BY:

California Diesel Power

(Firm/Company Name)

FOUR STATIONARY DIESEL GENERATORS
GENERATOR REPLACEMENT PROGRAM
PROJECT NO. 13008.01; RFB P13-02

Bid Schedule

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>UNIT</th>
<th>BID PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>One (1) 250 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$52,450.00</td>
</tr>
<tr>
<td>2.</td>
<td>Delivery of 250 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$2,100.00</td>
</tr>
<tr>
<td>3.</td>
<td>Inspection of 250 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$2,800.00</td>
</tr>
<tr>
<td>4.</td>
<td>One (1) 200 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$40,875.00</td>
</tr>
<tr>
<td>5.</td>
<td>Delivery of 200 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$2,100.00</td>
</tr>
<tr>
<td>6.</td>
<td>Inspection of 200 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$2,800.00</td>
</tr>
<tr>
<td>7.</td>
<td>One (1) 150 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$38,300.00</td>
</tr>
<tr>
<td>8.</td>
<td>Delivery of 150 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$18,000.00</td>
</tr>
<tr>
<td>9.</td>
<td>Inspection of 150 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>10.</td>
<td>One (1) 125 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$31,973.00</td>
</tr>
<tr>
<td>11.</td>
<td>Delivery of 125 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$18,000.00</td>
</tr>
<tr>
<td>12.</td>
<td>Inspection of 125 KW generator</td>
<td>1</td>
<td>Each</td>
<td>$2,000.00</td>
</tr>
</tbody>
</table>

**TOTAL BID PRICE** $180,951.00

*Does NOT include Tax*

In submitting this bid, bidder agrees to all of the terms and conditions of this Request for Bids and agrees to keep this bid open for acceptance by El Dorado Irrigation District (EID) for sixty (60) calendar days from the date it is opened by EID.

**Certification**

I certify (or declare) under penalty of perjury under the laws of the State of California that: I have inspected the site prior to bidding; all of the information submitted with this bid is true and correct; and that the person signing below is duly authorized to submit this bid on behalf of bidder.

Signature of Bidder

End of Exhibit A

Exhibit A
Exceptions & Clarifications

1. There is no off-loading or installation of this equipment included in our proposal.
2. There is no fuel included in our proposal.
3. There are no permits of any kind included in our proposal.
4. We are offering only the manufacturer’s standard lugs in our proposal. Any special lugging will be quoted on an individual basis.
5. 2.04, A, 3= Standby rating for alternator is 150 C and prime is 125 C.
6. 5.05, G 1= Set up for load bank will be done on the same day as the 2 hour load bank is performed.
7. 5.06 A= Training will be performed the same day as load bank.
8. Tax Not included.
### Generator Data Form 125 kW

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator Continuous Output Power</td>
<td>125</td>
<td>kW</td>
</tr>
<tr>
<td>Voltage</td>
<td>480V</td>
<td>VAC</td>
</tr>
<tr>
<td>Frequency</td>
<td>60</td>
<td>Hz</td>
</tr>
<tr>
<td>Maximum Step Voltage-Dip</td>
<td></td>
<td>VAC</td>
</tr>
<tr>
<td>Maximum Alternator Temp Rise</td>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Operating Elevation (MSL)</td>
<td>680</td>
<td>Feet</td>
</tr>
<tr>
<td>TOTAL HP of MOTORS - 195</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generator Main Breaker Rating</td>
<td>150</td>
<td>Amps</td>
</tr>
<tr>
<td>Generator Main Breaker Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generator Main Breaker Interrupt Rating</td>
<td>65</td>
<td>AHC</td>
</tr>
<tr>
<td>Load Bank Breaker Rating</td>
<td>NA</td>
<td>Amps</td>
</tr>
<tr>
<td>Load Bank Breaker Type</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Load Bank Breaker Interrupt Rating</td>
<td>NA</td>
<td>AHC</td>
</tr>
<tr>
<td>Load Bank Size</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Horsepower at Rated RPM</td>
<td>Per Manufacturer</td>
<td>HP</td>
</tr>
<tr>
<td>Rated RPM</td>
<td>1800</td>
<td>RPM</td>
</tr>
<tr>
<td>HP Rating</td>
<td>Per Manufacturer</td>
<td>HP/KW</td>
</tr>
<tr>
<td>Displacement</td>
<td>Per Manufacturer</td>
<td>Cubic In</td>
</tr>
<tr>
<td>Fuel Type</td>
<td>No 2 Diesel</td>
<td></td>
</tr>
<tr>
<td>Engine Type</td>
<td>Turbo</td>
<td></td>
</tr>
<tr>
<td>Particulate Matter</td>
<td>0.15</td>
<td>g/hp-hr</td>
</tr>
<tr>
<td>Starter Battery-Voltage</td>
<td>12</td>
<td>VDC</td>
</tr>
<tr>
<td>Alternator Output</td>
<td>100</td>
<td>A</td>
</tr>
<tr>
<td>Battery Changer Output</td>
<td>12v Float</td>
<td>VDC</td>
</tr>
<tr>
<td>Generator Capacity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel Consumption at 100% Load</td>
<td>Per Manufacturer</td>
<td>g/Hr</td>
</tr>
<tr>
<td>Runtime 100% Load</td>
<td>24</td>
<td>Hours</td>
</tr>
<tr>
<td>Sub-Base Fuel Tank Capacity Minimum</td>
<td>Per Manufacturer</td>
<td>Gallons</td>
</tr>
<tr>
<td>Day Tank Size</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Day Tank Type (Sub-Base or Remote)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Enclosure Required</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Sound attenuated</td>
<td>dB</td>
</tr>
<tr>
<td>Maximum Sound Level</td>
<td>Per Spec</td>
<td>dB</td>
</tr>
</tbody>
</table>

### Diesel Generator

**16210**

**Page 32 of 33**
Standby and Prime Power Features

- Heavy-duty industrial diesel engine that meets the latest EPA emissions levels
- Brushless synchronous alternators with dynamic balancing and four pole construction
- Fully featured microprocessor-based controller that's easy to use and field programmable for customized installations
- Generator sets are prototype tested and production tested to ensure easy startup
- Gen-set accepts rated load in one step
- Heavy-duty construction that's designed for use in prime or standby applications
- Manufactured in a dedicated and secured ISO 9001 certified facility
- Generator sets are backed by a worldwide network of parts and service centers
- Optional agency approved available including UL2200 and NFPA110
- Optional environmental enclosures available including weather resistant, sound attenuated, containerized, and walk-in models
- Full range of genset accessories and factory installed options available

Genset Ratings

<table>
<thead>
<tr>
<th>Genset Model Number</th>
<th>Alternator</th>
<th>Voltage L-N / L-L</th>
<th>Phase</th>
<th>Hertz</th>
<th>150°C Rise Standby Rating</th>
<th>125°C Rise Prime Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>kW / kVA</td>
<td>Amps</td>
</tr>
<tr>
<td>IDLC125-3J</td>
<td>UCE24G-111</td>
<td>125/226</td>
<td>3</td>
<td>60</td>
<td>110/132</td>
<td>382</td>
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<tr>
<td></td>
<td></td>
<td>110/240</td>
<td>3</td>
<td>60</td>
<td>110/138</td>
<td>331</td>
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<td></td>
<td>125/240</td>
<td>3</td>
<td>60</td>
<td>125/155</td>
<td>198</td>
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<td></td>
<td>UCE24G-17</td>
<td>125/260</td>
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<td>60</td>
<td>125/155</td>
<td>146</td>
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<td></td>
<td>UCE24E-111</td>
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<td>60</td>
<td>125/155</td>
<td>149</td>
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<td></td>
<td></td>
<td>110/240</td>
<td>3</td>
<td>60</td>
<td>125/155</td>
<td>270</td>
</tr>
<tr>
<td></td>
<td></td>
<td>125/240</td>
<td>3</td>
<td>60</td>
<td>125/155</td>
<td>270</td>
</tr>
<tr>
<td></td>
<td></td>
<td>125/240</td>
<td>3</td>
<td>60</td>
<td>125/155</td>
<td>270</td>
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<td>125/240</td>
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<td>60</td>
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<td>3</td>
<td>60</td>
<td>125/155</td>
<td>270</td>
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</tbody>
</table>

NOTES: All information is subject to change without notice.
# Engine Application Data

## Engine Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>Manufacturer</td>
<td>John Deere</td>
</tr>
<tr>
<td>Engine Model #</td>
<td>6068HF285</td>
</tr>
<tr>
<td>Engine Type</td>
<td>4 Cycle, 6 Cylinder</td>
</tr>
<tr>
<td>Induction System</td>
<td>Turbocharged</td>
</tr>
<tr>
<td>Displacement, L (in³)</td>
<td>6.8 (415)</td>
</tr>
<tr>
<td>EPA Emissions Level</td>
<td>Tier 3</td>
</tr>
<tr>
<td>HP at Rated Speed, BHP (kWm)</td>
<td>197 (147)</td>
</tr>
<tr>
<td>Rated RPM</td>
<td>1800</td>
</tr>
<tr>
<td>Bore and Stroke, in (mm)</td>
<td>4.19x5.0 (106x127)</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>19.0:1</td>
</tr>
<tr>
<td>Air Filter Type</td>
<td>Dry</td>
</tr>
<tr>
<td>Governor Type/Model</td>
<td>JDEC Electronic</td>
</tr>
<tr>
<td>Governor Manufacturer</td>
<td>John Deere</td>
</tr>
<tr>
<td>Freq Reg NL to FL</td>
<td>Isochronous</td>
</tr>
<tr>
<td>Freq Reg Steady State</td>
<td>+/- 0.25%</td>
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</table>

## Engine Lubrication System

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Pan Capacity, gal (L)</td>
<td>8.6 (32.5)</td>
</tr>
<tr>
<td>Oil Pan w/Filter</td>
<td>8.8 (33.4)</td>
</tr>
<tr>
<td>Oil Filter Quantity</td>
<td>1</td>
</tr>
<tr>
<td>Oil Filter Type</td>
<td>Cartridge</td>
</tr>
<tr>
<td>Oil Cooler</td>
<td>Water Cooled</td>
</tr>
<tr>
<td>Recommended Oil</td>
<td>15W-40</td>
</tr>
<tr>
<td>Oil Press, psi (kPa)</td>
<td>44 (300)</td>
</tr>
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</table>

## Engine Cooling System

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen-set Max Ambient Temp. °F (°C)</td>
<td>122 (50)</td>
</tr>
<tr>
<td>Engine Coolant Cap. qt (L)</td>
<td>13 (12.3)</td>
</tr>
<tr>
<td>Engine + Radiator System Cap. qt (L)</td>
<td>31 (29.3)</td>
</tr>
<tr>
<td>Water Pump Type</td>
<td>Centrifugal</td>
</tr>
<tr>
<td>Coolant Flow, gpm (Lpm)</td>
<td>48 (180)</td>
</tr>
<tr>
<td>Heat Rejected to Cooling Water @ Rated kW, Btu/min (kW)</td>
<td>4756 (83.0)</td>
</tr>
<tr>
<td>Heat Rejected to Charge Cooler @ Rated kW, Btu/min (kW)</td>
<td>1229 (21.6)</td>
</tr>
<tr>
<td>Max Restriction of Cooling Air in H₂O (kPa)</td>
<td>0.5 (0.124)</td>
</tr>
</tbody>
</table>

## Engine Exhaust System

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaust Manifold Type</td>
<td>Dry</td>
</tr>
<tr>
<td>Exhaust Flow @ Rated kW, cfm (gpm)</td>
<td>1031 (29.2)</td>
</tr>
<tr>
<td>Exhaust Temp (dry manifold), °F (°C)</td>
<td>945 (50°F)</td>
</tr>
<tr>
<td>Min Back Pressure in. H₂O (kPa)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Max Back Pressure in. H₂O (kPa)</td>
<td>30 (7.5)</td>
</tr>
<tr>
<td>Exhaust Outlet Diameter, in (mm)</td>
<td>4.0 (101.6)</td>
</tr>
<tr>
<td>Exhaust Outlet Type</td>
<td>O.D. Tube</td>
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## Engine Electrical System

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>Charging Alternator Volts DC</td>
<td>12</td>
</tr>
<tr>
<td>Charging Alternator Amps</td>
<td>65</td>
</tr>
<tr>
<td>Grounding Polarity</td>
<td>Negative</td>
</tr>
<tr>
<td>Starter Motor Volts DC</td>
<td>12</td>
</tr>
<tr>
<td>Battery Recommendations</td>
<td></td>
</tr>
<tr>
<td>Battery Volts DC</td>
<td>12</td>
</tr>
<tr>
<td>Min Cold Cranking Amps</td>
<td>800</td>
</tr>
<tr>
<td>Quantity Required</td>
<td>1</td>
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## Ventilation Requirements

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling Airflow, scfm (cmm)</td>
<td>10142 (287)</td>
</tr>
<tr>
<td>Combustion Airflow, cfm (cmm)</td>
<td>410 (12)</td>
</tr>
<tr>
<td>Heat Rejected to Ambient</td>
<td></td>
</tr>
<tr>
<td>From Engine, Btu/min (kW)</td>
<td>1706 (30)</td>
</tr>
<tr>
<td>From Alternator, Btu/min (kW)</td>
<td>653 (15)</td>
</tr>
<tr>
<td>Recommended Free Area Intake</td>
<td></td>
</tr>
<tr>
<td>Louver Size, ft² (m²)</td>
<td>22 (2.04)</td>
</tr>
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## Engine Fuel System

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Fuel</td>
<td>#2 Diesel</td>
</tr>
<tr>
<td>Fuel Line at Engine</td>
<td></td>
</tr>
<tr>
<td>Supply Line Min ID, in (mm)</td>
<td>0.44 (11)</td>
</tr>
<tr>
<td>Return Line Min ID, in (mm)</td>
<td>0.25 (6)</td>
</tr>
<tr>
<td>Fuel Pump Type</td>
<td>Engine Driven</td>
</tr>
<tr>
<td>Fuel Pump Max Lift, ft (m)</td>
<td>6 (2)</td>
</tr>
<tr>
<td>Max Flow to Pump, gph (Lph)</td>
<td>28.3 (107)</td>
</tr>
<tr>
<td>Fuel Filter</td>
<td></td>
</tr>
<tr>
<td>Secondary Filter</td>
<td>2µm</td>
</tr>
<tr>
<td>Secondary Water Separator</td>
<td>Included</td>
</tr>
<tr>
<td>Primary Filter</td>
<td>30µm</td>
</tr>
<tr>
<td>Primary Water Separator</td>
<td>Included</td>
</tr>
</tbody>
</table>

## Fuel Consumption – Standby Rating

<table>
<thead>
<tr>
<th>Load (%)</th>
<th>gph (Lph)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>9.9 (37.5)</td>
<td></td>
</tr>
<tr>
<td>75%</td>
<td>7.7 (29.1)</td>
<td></td>
</tr>
<tr>
<td>50%</td>
<td>5.7 (21.6)</td>
<td></td>
</tr>
<tr>
<td>25%</td>
<td>3.0 (11.4)</td>
<td></td>
</tr>
</tbody>
</table>

## Fuel Consumption – Prime Rating

<table>
<thead>
<tr>
<th>Load (%)</th>
<th>gph (Lph)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>8.9 (33.7)</td>
<td></td>
</tr>
<tr>
<td>75%</td>
<td>7.2 (27.8)</td>
<td></td>
</tr>
<tr>
<td>50%</td>
<td>5.4 (20.4)</td>
<td></td>
</tr>
<tr>
<td>25%</td>
<td>2.6 (10.6)</td>
<td></td>
</tr>
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</table>

## Engine Output Deratings – Standby

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Temp</td>
<td>77°F</td>
</tr>
<tr>
<td>Rated Altitude</td>
<td>1,000 ft</td>
</tr>
<tr>
<td>Max Altitude</td>
<td>10,000 ft</td>
</tr>
<tr>
<td>Temperature Derate</td>
<td>-1% / 20°F</td>
</tr>
<tr>
<td>Altitude Derate</td>
<td>-1% / 2000 ft</td>
</tr>
</tbody>
</table>
### Alternator Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternator Type</td>
<td>4-Pole, Rotating Field</td>
</tr>
<tr>
<td>Exciter Type</td>
<td>Brushless</td>
</tr>
<tr>
<td>Excitation System</td>
<td>Per NEMA MG1</td>
</tr>
<tr>
<td>Shunt Connection</td>
<td>Standard</td>
</tr>
<tr>
<td>PMG</td>
<td>Optional</td>
</tr>
<tr>
<td>Insulation Material</td>
<td>Class H</td>
</tr>
<tr>
<td>Standby Temp Rise</td>
<td>150°C</td>
</tr>
<tr>
<td>Prime Temp Rise</td>
<td>125°C</td>
</tr>
<tr>
<td>Lead Connection</td>
<td>12 Lead, Reconnectable</td>
</tr>
<tr>
<td>Stator Pitch</td>
<td>2/3</td>
</tr>
<tr>
<td>Amortisseur Winding</td>
<td>Full</td>
</tr>
<tr>
<td>Bearing</td>
<td>Single, Double Shielded</td>
</tr>
<tr>
<td>Drive Coupling</td>
<td>Flexible Disk</td>
</tr>
<tr>
<td>Unbalanced Load</td>
<td>20% of Standby Rating</td>
</tr>
<tr>
<td>Automatic Voltage Regulator</td>
<td></td>
</tr>
<tr>
<td>Wound Field</td>
<td>SX480</td>
</tr>
<tr>
<td>PMG</td>
<td>Opt MX341, Opt MX321</td>
</tr>
<tr>
<td>Voltage Regulation Std</td>
<td>+/- 1.5%</td>
</tr>
<tr>
<td>Regulator</td>
<td>+/- 1%, +/- 0.5%</td>
</tr>
<tr>
<td>Load Acceptance</td>
<td>100% of Rating, One Step</td>
</tr>
<tr>
<td>Subtransient Reactance</td>
<td>480V, Per Unit</td>
</tr>
<tr>
<td>TIF (1960 Weighting)</td>
<td>&lt;50</td>
</tr>
<tr>
<td>Line Harmonics</td>
<td>5% Maximum</td>
</tr>
<tr>
<td>Motor Starting kVA</td>
<td>30% Max Voltage Dip</td>
</tr>
<tr>
<td>Alt @ 480V SkVA</td>
<td>UCI274D-311 - 430 kVA</td>
</tr>
<tr>
<td>Alt @ 480V SkVA</td>
<td>UCI274E-311 - 450 kVA</td>
</tr>
</tbody>
</table>

### Genset Controller Specifications

**Baldor IntellLite NT Features**
- Large back-lit graphical LCD Display
- 64x128 pixel resolution
- 6 LED Genset Status Indicators
  - Alarm: Red LED
  - Not In Auto: Red LED
  - Warning: Yellow LED
  - Running: Green LED
  - Ready / Auto: Green LED
  - Supplying Load: Green LED
- Sealed Membrane Panel to IP65
- Push Buttons for Simple Control
  - Start, Stop, Fault Reset, Horn Reset, Mode, Page, and Enter Keys
- Display Metering and Protection
  - Oil Pressure Warning / Shutdown
  - High / Low Coolant Temperature Warning
  - High Coolant Temperature Shutdown
  - Low Fuel Level Warning / Shutdown
  - Over Speed Protection
  - Battery Voltage Over / Under Warning
  - Running Hour Meter
  - Generator Under/Over Volts Warn / Shutdown
  - Generator Under/Over Freq Warn / Shutdown
  - Generator Over Current Shutdown
  - Generator Output Metering for V1-V3, Hz, kW, kWh, kVar, kVAh

**NFPA110 Compliance**
- An optional Remote Annunciator is available to meet NFPA110 applications
- Remote Annunciator Features - RA15
  - 15 LED Indicators with Function Labels
  - Horn Reset and Lamp Test keys
  - CAN Bus Connection for up to 600 Feet
**Additional Standard Genset Features**
- Formed Steel Sub Base
- Integral Vibration Isolation
- Sub-Base Lifting Eyes
- Unit Mounted Radiator
- Engine Mounted Fan
- Radiator Core and Fan Guards
- Battery Charging Alternator
- Battery Rack and Cables
- Unit Mounted Control Panel
- Spin-On Filters for Oil and Fuel
- Enamel Finish
- One Set Operation/Maintenance Manual
- Factory Tested Prior to Shipment
- Limited Warranty

**Available Accessories and Options**

**Open Unit**
- Industrial Silencer
- Residential Silencer
- Critical Silencer
- Super Critical Silencer
- Exhaust Flex Pipe
- Rain Cap
- Radiator Duct Flange

**Enclosed Units**
- Weather Resistant Enclosure
- Sound Attenuated w/Internal Critical Silencer
- Container
- Walk-In Enclosure

**Alternator Accessories**
- PMG Exciter and AVR Upgrade
- Alternator Space Heater
- Exciter Field Circuit Breaker
- Alternator Dip Shield

**Genset Accessories**
- Voltage Adjust Potentiometer
- Starting Battery
- Battery Charger
- Auto/Float
- Auto/Float Equalize Timer
- Manual
- Automatic
- Battery Heater
- Engine Coolant Heater
- Oil & Coolant Drain Valves (Engine/Radiator)
- Oil & Coolant Drain Extended to Base
- Main Output Breaker
- Wall Mount
- Unit Mount
- Transfer Switch
- Manual
- Automatic

**Control Panel**
- Remote Annunciator
- Remote Communications
- Remote E-Stop

**Fuel System and Sub-Base Fuel Tank**
- Sub-Base Tank
- Single Wall
- Double Wall
- UL 142 Double Wall with Containment
- Tank Run Time: 100% Load
  - 12-16 Hours
  - 24-36 Hours
- Flex Fuel Line
- Primary Fuel/Water Separator

**Vibration Isolators**
- Location
  - Under Tank
  - Between Tank
- Elastomer Isolator
- Pad Isolator
- Standard Spring
- Spring for Seismic Zone

---

**Optional Agency Approvals**
- UL 2200 (Review Option Availability)
- NFPA 110 (Request Remote Annunciator)

**Weight and Dimensions (Open Unit)**

| Weight (lbs | 3076 (1395) |
| Overall Dimensions | Length x Width x Height |
| inches | 108 x 42 x 53 |
| mm | 2743 x 1067 x 1346 |

*Note: Drawing is provided for reference only. Use engineering outline for installation planning.*
**GENERATOR DATA FORM 200 KW**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Minimum</th>
<th>Submitted Value</th>
<th>Units</th>
</tr>
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<tr>
<td><strong>ALTERNATOR</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generator Continuous Output Power</td>
<td>200</td>
<td>222</td>
<td>kW</td>
</tr>
<tr>
<td>Amperage</td>
<td>100</td>
<td></td>
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</tr>
<tr>
<td>Three Phase Voltage</td>
<td>480V</td>
<td>YES</td>
<td>VAC</td>
</tr>
<tr>
<td>Power Frequency</td>
<td>60</td>
<td>YES</td>
<td>Hz</td>
</tr>
<tr>
<td>Motor Starting (max 35% voltage dip)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Step Voltage Dip</td>
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<td></td>
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</tr>
<tr>
<td>Maximum Alternator Temp Rise</td>
<td></td>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Operating Elevation (ASL)</td>
<td>2'40</td>
<td></td>
<td>Feet</td>
</tr>
<tr>
<td><strong>TOTAL HP OF MOTORS - 105</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BREAKERS &amp; LOAD BANK</strong></td>
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</tr>
<tr>
<td>Generator Main Breaker Rating</td>
<td>150</td>
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<td>Amps</td>
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<td>Generator Main Breaker Type</td>
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<td>Generator Main Breaker Interrupt Rating</td>
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<td>EAIC</td>
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<td>Load Bank Breaker Rating</td>
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<td>Amps</td>
</tr>
<tr>
<td>Load Bank Breaker Type</td>
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<tr>
<td>Load Bank Breaker Interrupt Rating</td>
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<td></td>
<td>EAIC</td>
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<tr>
<td>Load Bank Size</td>
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<td></td>
<td>kW</td>
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<td><strong>ENGINE</strong></td>
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<tr>
<td>Horsepower at Rated RPM</td>
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<td>HP</td>
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<tr>
<td>Rated RPM</td>
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<td></td>
<td>RPM</td>
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<td>HP Rating</td>
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<td></td>
<td>HP/KW</td>
</tr>
<tr>
<td>Displacement</td>
<td>0.15</td>
<td></td>
<td>Cubic In</td>
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<td>Fuel Type</td>
<td>No. 2 Diesel</td>
<td></td>
<td></td>
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<td>Engine Type</td>
<td>Turbo</td>
<td></td>
<td></td>
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<tr>
<td>Particulate Matter</td>
<td>1</td>
<td></td>
<td>g/bhp-hr</td>
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<td><strong>ENGINE ELECTRICAL SYSTEM</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Starter/Battery Voltage</td>
<td>12</td>
<td></td>
<td>VDC</td>
</tr>
<tr>
<td>Cold Cranking Current</td>
<td>1000</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Alternator Output</td>
<td>100</td>
<td></td>
<td>A</td>
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<tr>
<td>Battery Charger Output</td>
<td>12v FLOAT</td>
<td></td>
<td>VDC</td>
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<tr>
<td><strong>ENGINE BLOCK, HEATER</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>Per Manufacturer</td>
<td></td>
<td>W</td>
</tr>
<tr>
<td>Phase</td>
<td>Per Manufacturer</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Voltage</td>
<td>Per Manufacturer</td>
<td></td>
<td>VAC</td>
</tr>
<tr>
<td><strong>FUEL TANK</strong></td>
<td></td>
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</tr>
<tr>
<td>Fuel Consumption at 100% Load</td>
<td>16.3</td>
<td></td>
<td>gshLh</td>
</tr>
<tr>
<td>Emergency 100% Load</td>
<td>24</td>
<td></td>
<td>Hours</td>
</tr>
<tr>
<td>Sub-Base Fuel Tank Capacity (Maximum)</td>
<td>90</td>
<td></td>
<td>gallons</td>
</tr>
<tr>
<td>Day Tank Size</td>
<td>N.A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day Tank Type (Sub-base at Remote)</td>
<td>N.A</td>
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<td></td>
</tr>
<tr>
<td><strong>ENCLOSURE</strong></td>
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<td></td>
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</tr>
<tr>
<td>Required?</td>
<td>YES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Sound attenuation</td>
<td></td>
<td>79</td>
</tr>
<tr>
<td>Maximum Sound Level</td>
<td>Per spec</td>
<td></td>
<td>dBA</td>
</tr>
</tbody>
</table>

**DIESEL GENERATOR**

16210

PAGE 30 of 33
Ratings Range – 60 Hertz Operation

Standby: kW 161 - 225
          kVA 161 - 281
Prime: kW 145 - 200
       kVA 145 - 250

Baldor generators are available in a variety of power ratings and installation styles to meet the energy needs of the smallest businesses and the largest manufacturing facilities. All generator sets are designed to meet the specifications to ensure the fastest startup and dependable long-term operation. Rely on Baldor generators to provide the clean, quiet and environmentally friendly electrical power when you need it most. Emergency backup, standby, prime power, peak shaving or for any of your day or night electrical power needs, you can count on a dependable Baldor generator to provide the peace of mind and security you desire.

Standby and Prime Power Features

- Heavy-duty industrial diesel engine that meets the latest EPA emissions levels
- Brushless synchronous alternators with dynamic balancing and four pole construction
- Fully featured microprocessor based controller that’s easy to use and field programmable for customized installations
- Generator sets are prototype tested and production tested to ensure easy startup
- Generator sets are backed by a worldwide network of parts and service centers
- Optional agency approvals available including UL2200 and NFPA110
- Optional environmental enclosures available including weather resistant, sound attenuated, containerized, and walk-in models
- Full range of genset accessories and factory installed options available

Genset Ratings

<table>
<thead>
<tr>
<th>Genset Model Number</th>
<th>Alternator</th>
<th>Voltage L-L / L-N</th>
<th>Phase</th>
<th>Hertz</th>
<th>150°C Rise Standby Rating kW / kVA</th>
<th>125°C Rise Prime Rating kW / kVA</th>
<th>Amps</th>
<th>Amps</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDLC225-4J</td>
<td>UCD874-4J-311</td>
<td>225/250</td>
<td>3</td>
<td>60</td>
<td>225/250</td>
<td>781</td>
<td>220/250</td>
<td>684</td>
</tr>
<tr>
<td></td>
<td>225/250-1h</td>
<td>225/250</td>
<td>3</td>
<td>60</td>
<td>225/250</td>
<td>677</td>
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<td>225/250</td>
<td>781</td>
<td>220/250</td>
<td>684</td>
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</table>

Notes:
- Available current in each low-voltage circuit is equal to high-voltage current listed in table.
- V-L and Phase not listed also refer to the Genset Selectors.
- All ratings are not from one-nameplate circuit, but can be used for the evaluation of the utility, usage per hour, HP, and kW of the prime power.
- Prime and Standby (Rating) ratings are contract or DIN 6221 and EN50162-rated for advanced capacity.
- Baldor reserves the right to implement specifications or design changes without notice.
### Engine Application Data

#### Engine Specifications
- **Manufacturer**: John Deere
- **Engine Model**: 6090HF484
- **Engine Type**: 4 Cycle, 6 Cylinder, Turbocharged, Charge Air Cooled
- **Displacement, L (in³)**: 9 (548)
- **EPA Emissions Level**: Tier 3
- **HP at Rated Speed**: 346 (258)
- **Rated RPM**: 1800
- **Bore and Stroke**: in (mm): 4.661 x 5.355 (118 x 136)
- **Compression Ratio**: 16.0:1
- **Air Filter Type**: Dry
- **Governor Type/Model**: John Deere Electronic
- **Governor Manufacturer**: John Deere
- **Freq Reg NL to FL**: Isochronous
- **Freq Reg Steady State**: +/- 0.25%

#### Engine Lubrication System
- **Oil Pan Capacity**: gai(L): 6.4 (31.8)
- **Oil Pan w/Filter**: 6.8 (33.2)
- **Oil Filter Quantity**: 1
- **Oil Filter Type**: Cartridge
- **Oil Cooler Type**: Water Cooled
- **Recommended Oil**: 15W-40
- **Oil Pressure psill(Pa)**: 8.4 (330)

#### Engine Electrical System
- **Charging Alternator Volts dc**: 24
- **Charging Alternator Amps**: 65
- **Grounding Polarity**: Negative
- **Starter Motor Volts dc**: 24
- **Min Cold Cranking Amps**: 800
- **Quantity Required**: 2

#### Engine Cooling System
- **Genset Max Ambient Temp °F(°C)**: 122 (50)
- **Engine Coolant Cap**: qt(L): 17 (16.1)
- **Engine + Radiator System Cap**: qt(L): 32.8 (31.0)
- **Water Pump Type**: Centrifugal
- **Coolant Flow gpm (Lpm)**: 74 (280)
- **Heat Rejected to Cooling Water @ Rated kW: Btu/min (kW)**: 5368 (94.3)
- **Heat Rejected to Charge Cooler @ Rated kW: Btu/min (kW)**: 3011 (52.9)
- **Max Restriction of Cooling Air in H₂O(kPa)**: 0.5 (0.124)

#### Fuel System
- **Recommended Fuel**: #2 Diesel
- **Fuel Line at Engine**
  - Supply Line Min ID in(mm): 0.44 (11)
  - Return Line Min ID in(mm): 0.36 (10)
- **Fuel Pump Type**: Engine Driven
- **Fuel Pump Max Lift ft (m)**: 6 (2)
- **Max Flow to Pump gph(Lph)**: 63.4 (240.0)
- **Fuel Filter**
  - Secondary Filter: 2μm @ 98% Eff
  - Secondary Water Separator: Included
  - Primary Filter: 10μm @ 98% Eff
  - Primary Water Separator: Included

#### Fuel Consumption
- **100% Load gph(Lph)**: 16.3 (61.7)
- **75% Load gph(Lph)**: 14.3 (54.2)
- **50% Load gph(Lph)**: 10.2 (39.3)
- **25% Load gph(Lph)**: 5.1 (19.3)

#### Engine Output Deratings - Standby
- **Rated Temp**: 77°F
- **Rated Altitude**: 1,000 ft
- **Max Altitude**: 10,000 ft
- **Temperature Derate**: -1% / 20°F
- **Altitude Derate**: -1% / 2000 ft

---

---
### Alternator Specifications

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<tr>
<th>Alternator Type</th>
<th>4-Pole, Rotating Field</th>
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<td>PMG</td>
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<td>Insulation</td>
<td>per NEMA MG1</td>
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<td>Class H</td>
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<td>125°C</td>
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<td>Flexible Disk</td>
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<td>PMG Regulator</td>
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<td>Load Acceptance</td>
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<td>Alt @ 480V SkVA</td>
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</table>

### Genset Controller Specifications

**Baldor IntelliLite NT Features**

- Large back-lit graphical LCD Display
- 64x128 pixel resolution
- 6 LED Genset Status Indicators:
  - Alarm: Red LED
  - Not in Auto: Red LED
  - Warning: Yellow LED
  - Running: Green LED
  - Ready / Auto: Green LED
  - Supplying Load: Green LED
- Sealed Membrane Panel to IP65
- Push Buttons for Simple Control
  - Start, Stop, Fault Reset, Horn Reset, Mode, Page, and Enter Keys
- Display Metering and Protection
  - Oil Pressure Warning / Shutdown
  - High/Low Coolant Temperature Warning
  - High Coolant Temperature Shutdown
  - Low Coolant Level Shutdown
  - Low Fuel Level Warning / Shutdown
  - Over Speed Protection
  - Battery Voltage Under/Over Warning
  - Running Hour Meter
  - Generator Under/Over Volts Warn/Shutdown
  - Generator Under/Over Freq Warn/Shutdown
  - Generator Over Current Shutdown
  - Generator Output Metering for V1-V3, 11-13, Hz, kW, kWh, kVA, kVAh
- NFPA 110 Compliance
  - An optional Remote Annunciator is available to meet NFPA110 applications
- Remote Annunciator Features – RA15
  - 15 LED Indicators with Function Labels
  - Horn Reset and Lamp Test keys
  - CAN Bus Connection for up to 600 Feet
### Additional Standard Genset Features
- Formed Steel Sub-Base
- Integral Vibration Isolation
- Sub-Base Lifting Eyes
- Unit Mounted Radiator
- Engine Mounted Fan
- Radiator Core and Fan Guards
- Battery Charging Alternator
- Battery Rack and Cables
- Unit Mounted Control Panel
- Spin-On Filters for Oil and Fuel
- Enamel Finish
- One Set - Operation / Maintenance Manual
- Factory Tested Prior to Shipment
- Limited Warranty

### Available Accessories and Options

#### Open Unit
- Industrial Silencer
- Residential Silencer
- Critical Silencer
- Super Critical Silencer
- Exhaust Flex Pipe
- Rain Cap
- Radiator Duct Flange

#### Enclosed Units
- Weather Resistant Enclosure
- Sound Attenuated w/ Internal Critical Silencer
- ISO Container
- Walk-In Enclosure

#### Alternator Accessories
- PMG Exciter and AVR Upgrade
- Alternator Space Heater
- Exciter Field Circuit Breaker
- Alternator Drip Shield

#### Genset Accessories
- Voltage Adjust Potentiometer
- Starting Battery
- Battery Charger
- Auto/Float
- Auto/Float Equalize Timer
- Manual
- Automatic
- Battery Heater
- Engine Coolant Heater
- Oil & Coolant Drain Valves (Engine/Radiator)
- Oil & Coolant Drain Extended to Base
- Main Output Breaker
- Wall Mount
- Unit Mount Transfer Switch
- Manual
- Automatic

### Optional Agency Approvals
- UL2200 (Review Option Availability)
- NFPA110 (Request Remote Annunciator)

### Weight and Dimensions (Open Unit)
**Weight - Wet**
5119 (1890)

**Overall Dimensions**
- Length x Width x Height
- 118 x 48 x 59 inches
- 2997 x 1219 x 1499 mm

**Note:** Drawing is provided for reference only. Use engineering outline for installation planning.

---

**FLA**
FLA MEMBER OF THE ABB GROUP
Baldor Electric Company
P. O. Box 2400 • Fort Smith, AR 72903-2400 U.S.A.
Phone (479) 646-4711 • Fax (479) 646-5732 • International Fax (479) 646-5995
www.baldor.com
**GENERATOR DATA FORM 150 KW**

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<th>Specification</th>
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**Diesel Generator 16210**
Baldor generators are available in a variety of power ratings and installation styles to meet the energy needs of the smallest businesses and the largest manufacturing facilities. All generator sets are designed to meet the specifications to ensure the fastest startup and dependable long-term operation. Rely on Baldor generators to provide the clean, quiet and environmentally friendly electrical power when you need it most. Emergency backup, standby, prime power, peak shaving or for any of your day or night electrical power needs, you can count on a dependable Baldor generator to provide the peace of mind and security you desire.

### Genset Ratings

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<td>277 / 460</td>
<td>3</td>
<td>80</td>
<td>169 / 225</td>
<td>271</td>
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</tbody>
</table>

**NOTES:**
- Alternator connections have high circuit available for both voltage.
- Available current in machine voltage circuit is equal to high circuit current listed in table.
- Low voltage and circuits are listed above refer to the General Section.
- Standby ratings do not have an overload capability, but can be used for the duration of the standup time at rated output.
- Heavy duty industrial diesel engine that meets the latest EPA emissions levels.
- Brushless synchronous alternators with dynamic balancing and four pole construction.
- Fully featured microprocessor based controller that's easy to use and field programmable for customized installations.
- Generator sets are prototype tested and production tested to ensure easy startup.
- Gas-set acceptance rated load in one step.
- Heavy duty construction that's designed for use in prime or standby applications.
- Manufactured in a dedicated and secure ISO-9001 certified facility.
- Generator sets are backed by a world wide network of parts and service centers.
- Optional agency approvals available including UL2200 and NFPA 110.
- Optional environmental enclosures available including weather resistant, sound attenuated containerized and walk-in models.
- Full range of genset accessories and factory installed options available.
### Engine Application Data

**Engine Specifications**
- **Manufacturer**: John Deere
- **Engine Model #**: 606HF485
- **Engine Type**: 6 Cylinder, Turbocharged
- **Induction System**: Charge Air Cooled
- **Displacement, L (in³)**: 8.8 (415)
- **EPA Emissions Level**: Tier 3
- **HP at Rated Speed BHP / kW**: 284 (212)
- **Rated RPM**: 1800
- **Bore and Stroke in mm**: 170 x 170 (106 x 127)
- **Compression Ratio**: 17:0:1
- **Air Filter Type**: Dry
- **Governor Type/Model**: John Deere
- **Freg Reg NL to FL**: 126
- **Freg Reg Steady State**: +/- 0.25%

**Engine Lubrication System**
- **Oil Pan Capacity gal (L)**: 8.6 (32.5)
- **Oil Pan w/ Filter**: 8.9 (33.5)
- **Oil Filter Quantity**: 1
- **Oil Filter Type**: Cartridge
- **Oil Cooler**: Water Cooled
- **Recommended Oil**: 15W-40
- **Oil Press psid (kPa)**: 44 (300)

**Engine Cooling System**
- **Genset Max Ambient Temp °F (°C)**: 122 (50)
- **Engine Coolant Cap qt (L)**: 13 (12.3)
- **Engine + Radiator System Cap qt (L)**: 39.6 (37.5)
- **Water Pump Type**: Centrifugal
- **Coolant Flow gpm (Lpm)**: 63 (240)
- **Heat Rejected to Cooling Water @ Rated kW, Btu/min (kW)**: 5175 (90.3)
- **Heat Rejected to Charge Cooler @ Rated kW, Btu/min (kW)**: 2864 (50.3)
- **Max Restriction of Cooling Air in H₂O (kPa)**: 0.5 (0.0124)

**Engine Exhaust System**
- **Exhaust Manifold Type**: Dry
- **Exhaust Flow @ Rated kW cfm (cm³/min)**: 335 (37.8)
- **Exhaust Temp (dry manifold) °F (°C)**: 660 (350)
- **Min Back Pressure in H₂O (kPa)**: 16 (4)
- **Max Back Pressure in H₂O (kPa)**: 30 (7.5)
- **Exhaust Outlet Diameter in mm**: 1.0 (101.6)
- **Exhaust Outlet Type**: 0-D. Tube

**Engine Electrical System**
- **Charging Alternator Volts dc**: 12
- **Charging Alternator Amps**: 65
- **Grounding Polarity**: Negative
- **Starter Motor Volts dc**: 12
- **Battery Recommendations**
  - **Battery Volts dc**: 12
  - **Min Cold Cranking Amps**: 560
  - **Quantity Required**: 1

**Ventilation Requirements**
- **Cooling Airflow scfm (cm³/min)**: 1337 (3791)
- **Combustion Airflow cfm (cm³/min)**: 1563 (4616)
- **Heat Rejected to Ambient**
  - From Engine Btu/min (kW)**: 2369 (42)
  - From Alternator Btu/min (kW)**: 510 (22)
- **Recommended Free Area Intake**
  - **Louver Size ft² (m²)**: 26 (2.6)

**Engine Fuel System**
- **Recommended Fuel**: #2 Diesel
- **Fuel Line at Engine**
  - **Supply Line Min ID in mm**: 9.44 (3/8)
  - **Return Line Min ID in mm**: 0.38 (0.15)
- **Fuel Pump Type**: Engine Driven
- **Fuel Pump Max Lift ft (m)**: 6 (2)
- **Max Flow to Pump gph (Lph)**: 33.5 (128.8)
- **Fuel Filter**
  - **Secondary Filter**: 2µm
  - **Secondary Water Separator**: included
  - **Primary Filter**: 30µm
  - **Primary Water Separator**: included

**Fuel Consumption - Standby Rating**
- **100% Load gph (Lph)**: 13.3 (51.1)
- **75% Load gph (Lph)**: 10.5 (39.7)
- **50% Load gph (Lph)**: 7.4 (28.0)
- **25% Load gph (Lph)**: 4.3 (16.3)

**Fuel Consumption - Prime Rating**
- **100% Load gph (Lph)**: 12.4 (46.9)
- **75% Load gph (Lph)**: 9.6 (36.3)
- **50% Load gph (Lph)**: 6.7 (25.4)
- **25% Load gph (Lph)**: 4.0 (15.1)

**Engine Output Deratings - Standby**
- **Rated Temp**: 77°F
- **Rated Altitude**: 1,000 ft
- **Max Altitude**: 10,000 ft
- **Temperature Derate**: -1%/20°F
- **Altitude Derate**: -1%/2000 ft
# Alternator Specifications

<table>
<thead>
<tr>
<th>Alternator Type</th>
<th>4-Pole, Rotating Field</th>
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<tbody>
<tr>
<td>Exciter Type</td>
<td>Brushless</td>
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<tr>
<td>Excitation System</td>
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<tr>
<td>Shunt Connection</td>
<td>Standard</td>
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<tr>
<td>PMG</td>
<td>Optional</td>
</tr>
<tr>
<td>Insulation</td>
<td>per NEMA MG1</td>
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<tr>
<td>Material</td>
<td>Class H</td>
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<tr>
<td>Standby Temp Rise</td>
<td>150°C</td>
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<tr>
<td>Prime Temp Rise</td>
<td>125°C</td>
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<tr>
<td>Lead Connection</td>
<td>12 Lead, Reconnectable</td>
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<tr>
<td>Stator Pitch</td>
<td>2/3</td>
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<tr>
<td>A.C. Exciter Winding</td>
<td>Full</td>
</tr>
<tr>
<td>Bearing</td>
<td>Single, Double Shielded</td>
</tr>
<tr>
<td>Drive Coupling</td>
<td>Flexible Disk</td>
</tr>
<tr>
<td>Unbalanced Load</td>
<td>20% of Standby Rating</td>
</tr>
</tbody>
</table>

### Automatic Voltage Regulator
- **Wound Field**: Std SX460, Opt SX440
- **PMG**: Opt MX341, Opt MX321
- **Voltage Regulation**
  - **Std Regulator**: No Load to Full Load
  - **PMG Regulator**: +/− 1.5%, +/− 1%
- **Load Acceptance**: +/− 1%, +/− 0.5% (100% of Rating)
- **Subtransient Reactance**: One Step
  - 480V, Per Unit: 12%
- **TIF (1960 Weighting)**: <50
- **Line Harmonics**: 5% Maximum
- **Motor Starting kVA**: 30% Max Voltage Dip
- **Alt @ 480V kVA**: UCI274G-311 - 650
- **Alt @ 480V SkVA**: UCI274H-311 - 730

### Baldor IntelliLite NT Features
- **Large back-lit graphical LCD Display**: 64x128 pixel resolution
- **6 LED Genset Status Indicators**
  - **Alarm**: Red LED
  - **Not In Auto**: Red LED
  - **Warning**: Yellow LED
  - **Running**: Green LED
  - **Ready / Auto**: Green LED
  - **Suppling Load**: Green LED
- **Sealed Membrane Panel to IP65**
- **Push Buttons for Simple Control**
  - Start, Stop, Fault Reset, Horn Reset, Mode, Page, and Enter Keys
- **Display Metering and Protection**
  - Oil Pressure Warning / Shutdown
  - High/Low Coolant Temperature Warning
  - High Coolant Temperature Shutdown
  - Low Coolant Level Shutdown
  - Low Fuel Level Warning / Shutdown
  - Over Speed Protection
  - Battery Voltage Under/Over Warning
  - Running Hour Meter
  - Generator Under/Over Volts Warn/Shutdown
  - Generator Under/Over Freq Warn/Shutdown
  - Generator Over Current Shutdown
  - Generator Output Metering for V1-V3, Hz, kW, kWh, kVAR, kVAh
- **NFPA110 Compliance**
  - An optional Remote Annunciator is available to meet NFPA110 applications
- **Remote Annunciator Features - RA15**
  - 15 LED Indicators with Function Labels
  - Horn Reset and Lamp Test keys
  - CAN Bus Connection for up to 600 Feet
### Additional Standard Genset Features
- Formed Steel Sub-Base
- Integral Vibration Isolation
- Sub-Base Lifting Eyes
- Unit Mounted Radiator
- Engine Mounted Fan
- Radiator Core and Fan Guards
- Battery Charging Alternator
- Battery Rack and Cables
- Unit Mounted Control Panel
- Spin-On Filters for Oil and Fuel
- Enamel Finish
- One Set - Operation / Maintenance Manual
- Factory Tested Prior to Shipment
- Limited Warranty

### Available Accessories and Options

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<tr>
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<tr>
<td>Open Unit</td>
</tr>
<tr>
<td>Industrial Silencer</td>
</tr>
<tr>
<td>Residential Silencer</td>
</tr>
<tr>
<td>Critical Silencer</td>
</tr>
<tr>
<td>Super Critical Silencer</td>
</tr>
<tr>
<td>Exhaust Flex Pipe</td>
</tr>
<tr>
<td>Rain Cap</td>
</tr>
<tr>
<td>Radiator Duct Flange</td>
</tr>
</tbody>
</table>

| Enclosed Units                               |
| Weather Resistant Enclosure                  |
| Sound Attenuated w/Internal Critical Silencer |
| ISO Container                                |
| Walk-In Enclosure                            |

| Alternator Accessories                       |
| PMG Exciter and AVR Upgrade                  |
| Alternator Space Heater                       |
| Exciter Field Circuit Breaker                 |
| Alternator Drip Shield                        |

| Genset Accessories                           |
| Voltage Adjust Potentiometer                  |
| Starting Battery                              |
| Battery Charger                               |
| Auto/Float                                   |
| Auto/Float Equalize Timer                     |
| Manual                                        |
| Automatic                                     |
| Battery Heater                                |
| Engine Coolant Heater                         |
| Oil & Coolant Drain Valves (Engine/Radiator)  |
| Oil & Coolant Drain Extended to Base          |
| Main Output Breaker                           |
| Wall Mount                                    |
| Unit Mount                                    |
| Transfer Switch                               |
| Manual                                        |
| Automatic                                     |

| Control Panel                                |
| Remote Annunciator                           |
| Remote Communications                        |
| Remote E-Stop                                 |

| Fuel System and Sub-Base Fuel Tank           |
| Sub-Base Tank                                |
| Single Wall                                  |
| Double Wall                                  |
| UL142 Double Wall with Containment           |
| Tank Run Time @ 100% Load                    |
| 12-16 Hours                                  |
| 24-36 Hours                                  |
| Flex Fuel Line                               |
| Primary Fuel / Water Separator               |

| Vibration Isolators                          |
| Location                                     |
| Under Tank                                   |
| Between Tank                                 |
| Elastomer Isolator                           |
| Pad Isolator                                 |
| Standard Spring                              |
| Spring for Seismic Zone                      |

### Optional Agency Approvals
- UL2200 (Review Option Availability)
- NFPA110 (Request Remote Annunciator)

### Weight and Dimensions (Open Unit)

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<th>Weight - Wet lb(kg)</th>
<th>3708 (1441)</th>
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<tbody>
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<td>Overall Dimensions</td>
<td>Length x Width x Height</td>
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<tr>
<td>inches</td>
<td>118 x 48 x 53</td>
</tr>
<tr>
<td>mm</td>
<td>2997 x 1219 x 1346</td>
</tr>
</tbody>
</table>

Note: Drawing is provided for reference only. Use engineering outline for installation planning.

---

Baldor Generators

World Headquarters

Baldor Electric Company • P. O. Box 2400 • Fort Smith, AR 72902-2400 U.S.A.

Phone (479) 646-4711 • Fax (479) 648-5792 • International Fax (479) 648-5995

www.baldor.com

Printed in U.S.A.

V.1.659.0
### GENERATOR DATA FORM 250 KW

<table>
<thead>
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<th>Description</th>
<th>Specification</th>
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<tr>
<td>Generator Continuous Power (kW)</td>
<td>250</td>
<td>273</td>
<td>kW</td>
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<tr>
<td>Generator Continuous Power (kVA)</td>
<td>35</td>
<td>69</td>
<td>kVA</td>
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<td>Generator Amperage</td>
<td>11</td>
<td>32</td>
<td>AMPS</td>
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<td>VAC</td>
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<td>Power Frequency</td>
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<td>Motor Starting (max 25% voltage drop)</td>
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<td>Maximum Step Voltage (V)</td>
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<td>Operating Elevation (OEL)</td>
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<td><strong>BREAKERS &amp; LOAD BANK</strong></td>
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<td>Generator Main Breaker Rating</td>
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<td>Cold Cranking Current</td>
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<td>Battery Charger Output</td>
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<td>VDC</td>
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<td>Phase</td>
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<tr>
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<td></td>
<td>VAC</td>
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<td><strong>FUEL TANK</strong></td>
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<td>Fuel Consumption at 100% Load</td>
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<td>Gal/Hr</td>
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<td>Routine 100% Load</td>
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<td>Type</td>
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<tr>
<td>Maximum Sound Level</td>
<td>75</td>
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<td>dB</td>
</tr>
</tbody>
</table>

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**DIESEL GENERATOR**

**PAGE 29 of 33**
Ratings Range – 60 Hertz Operation

Standby: kW 170 - 275
kVA 170 - 344
Prime: kW 160 - 250
kVA 160 - 312

Baldor generators are available in a variety of power ratings and installation styles to meet the energy needs of the smallest businesses and the largest manufacturing facilities. All generator sets are designed to meet the specifications to ensure the fastest startup and dependable long-term operation. Rely on Baldor generators to provide the clean, quiet and environmentally friendly electrical power when you need it most. Emergency backup, standby, prime power, peak shaving or for any of your day or night electrical power needs, you can count on a dependable Baldor generator to provide the peace of mind and security you desire.

Standby and Prime Power Features

✓ Heavy-duty industrial diesel engine that meets the latest EPA emissions levels
✓ Brakeless synchronous alternators with dynamic balancing and four pole construction
✓ Fully featured microprocessor based controller that's easy to use and field programmable for customized installations
✓ Generator sets are prototype tested and production tested to ensure easy startup
✓ Gen-set accepts rated load in one step
✓ Heavy-duty construction that's designed for use in prime or standby applications
✓ Manufactured in a dedicated and secure ISO-9001 certified facility
✓ Generator sets are backed by a world-wide network of parts and service centers
✓ Optional agency approvals available including UL2200 and NFPA110
✓ Optional environmental enclosures available including weather resistant, sound attenuated, containerized, and walk-in models
✓ Full range of genset accessories and factory installed options available

Genset Ratings

<table>
<thead>
<tr>
<th>Genset Model Number</th>
<th>Alternator</th>
<th>Voltage L-L / L-N</th>
<th>Phase</th>
<th>Hertz</th>
<th>150°C Rise Standby Rating kW / kVA</th>
<th>Amps</th>
<th>125°C Rise Prime Rating kW / kVA</th>
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<tbody>
<tr>
<td>IDLC275-4J</td>
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<td>250 / 444</td>
<td>854</td>
<td>250 / 444</td>
<td>854</td>
</tr>
<tr>
<td></td>
<td>HC1444D-311</td>
<td>250/125 / 175</td>
<td>3</td>
<td>60</td>
<td>250 / 444</td>
<td>854</td>
<td>250 / 444</td>
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</tr>
<tr>
<td></td>
<td>HC1444D-311</td>
<td>250/125 / 175</td>
<td>3</td>
<td>60</td>
<td>250 / 444</td>
<td>854</td>
<td>250 / 444</td>
<td>854</td>
</tr>
</tbody>
</table>

NOTES:
- Alternator connections have two circuits available for each voltage
- Available current in each low voltage circuit is equal to high voltage current listed in table
- All ratings and performance tested to the manufacturer's standards
- Standby ratings do not have an overload capability, but can be used for the duration of the utility failure, per applicable UL2200 and NFPA110
- Prime Definitions: Running Time ratings are continuous per UL2200 and NFPA110 with 105°C overload capacity
- Baldor reserves the right to change specifications or design changes without notice
## Alternator Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternator Type</td>
<td>4-Pole, Rotating Field</td>
</tr>
<tr>
<td>Exciter Type</td>
<td>Brushless</td>
</tr>
<tr>
<td>Excitation System</td>
<td>Optional</td>
</tr>
<tr>
<td>Shunt Connection</td>
<td>Standard</td>
</tr>
<tr>
<td>PMG</td>
<td>per NEMA MG1</td>
</tr>
<tr>
<td>Insulation Material</td>
<td>Class H</td>
</tr>
<tr>
<td>Standby Temp Rise</td>
<td>150°C</td>
</tr>
<tr>
<td>Prime Temp Rise</td>
<td>125°C</td>
</tr>
<tr>
<td>Lead Connection</td>
<td>12 Lead, Reconnectable</td>
</tr>
<tr>
<td>Stator Pitch</td>
<td>2/3</td>
</tr>
<tr>
<td>Amortisseur Winding</td>
<td>Single, Double Shielded</td>
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<tr>
<td>Bearing</td>
<td>Flexible Disk</td>
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<tr>
<td>Drive Coupling</td>
<td></td>
</tr>
<tr>
<td>Unbalanced Load</td>
<td>20% of Standby Rating</td>
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<tr>
<td>Automatic Voltage Regulator</td>
<td>Wound Field</td>
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<tr>
<td>Wound Field</td>
<td>AS440</td>
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<tr>
<td>PMG</td>
<td>Opt MX321, Opt MX321</td>
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<tr>
<td>Voltage Regulation</td>
<td>No Load to Full Load</td>
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<tr>
<td>PMG Regulator</td>
<td>+/− 1%, +/- 0.5%</td>
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<tr>
<td>Load Acceptance</td>
<td>100% of Rating, One Step</td>
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<tr>
<td>Subtransient Reactance</td>
<td>460V, Per Unit</td>
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<tr>
<td>TIF (1960 Weighting)</td>
<td>&lt;50</td>
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<td>Line Harmonics</td>
<td>5% Maximum</td>
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<tr>
<td>Motor Starting kVA</td>
<td>30% Max Voltage Dip</td>
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<tr>
<td>Alt @ 480V SkVA</td>
<td>HCA444D-311-785</td>
</tr>
<tr>
<td>Alt @ 480V SkVA</td>
<td>HCA444E-311-940</td>
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</table>

## Genset Controller Specifications

### Baldor IntelliLite NT Features
- Large back-lit graphical LCD Display
- 64x128 pixel resolution
- 6 LED Genset Status Indicators:
  - Alarm: Red LED
  - Not In Auto: Red LED
  - Warning: Yellow LED
  - Running: Green LED
  - Ready / Auto: Green LED
  - Supplying Load: Green LED
- Sealed Membrane Panel to IP65
- Push Buttons for Simple Control:
  - Start, Stop, Fault Reset, Horn Reset, Mode, Page, and Enter Keys
- Display Metering and Protection:
  - Oil Pressure Warning / Shutdown
  - High/Low Coolant Temperature Warning
  - High Coolant Temperature Shutdown
  - Low Coolant Level Shutdown
  - Low Fuel Level Warning / Shutdown
  - Over Speed Protection
  - Battery Voltage Under/Over Warning
  - Running Hour Meter
  - Generator Under/Over Vota Warn/Shutdown
  - Generator Under/Over Freq Warn/Shutdown
  - Generator Over Current Shutdown
- Generator Output Metering for V1-V3, 11-13, Hz, kW, kWh, kVAR, kVAr
- NFPA110 Compliance:
  - An optional Remote Annunciator is available to meet NFPA110 applications
  - Remote Annunciator Features – RA15:
    - 15 LED Indicators with Function Labels
    - Horn Reset and Lamp Test keys
    - CAN Bus Connection for up to 600 Feet
**Additional Standard Genset Features**

- Formed Steel Sub-Base
- Integral Vibration Isolation
- Sub-Base Lifting Eyes
- Unit Mounted Radiator
- Engine Mounted Fan
- Radiator Core and Fan Guards
- Battery Charging Alternator
- Battery Rack and Cables
- Unit Mounted Control Panel
- Spin-On Filters for Oil and Fuel
- Engine Finish
- One Set - Operation / Maintenance Manual
- Factory Tested Prior to Shipment
- Limited Warranty

**Available Accessories and Options**

**Open Unit**

- Industrial Silencer
- Residential Silencer
- Critical Silencer
- Super Critical Silencer
- Exhaust Flex Pipe
- Rain Cap
- Radiator Duct Flange

**Enclosed Units**

- Weather Resistant Enclosure
- Sound Attenuated w/ Internal Critical Silencer
- ISO Container
- Walk-In Enclosure

**Alternator Accessories**

- PMG Exciter and AVR Upgrade
- Alternator Space Heater
- Exciter Field Circuit Breaker
- Alternator Drip Shield

**Genset Accessories**

- Voltage Adjust Potentiometer
- Starting Battery
- Battery Charger
- Auto/Float
- Auto/Float Equalize Timer
- Manual
- Automatic
- Battery Heater
- Engine Coolant Heater
- Oil & Coolant Drain Valves (Engine/Radiator)
- Oil & Coolant Drain Extended to Base
- Main Output Breaker
- Wall Mount
- Unit Mount Transfer Switch
- Manual
- Automatic

**Control Panel**

- Remote Annunciator
- Remote Communications
- Remote E-Stop

**Fuel System and Sub-Base Fuel Tank**

- Sub-Base Tank
- Single Wall
- Double Wall
- UL142 Double Wall with Containment
- Tank Run Time @ 100% Load
  - 12-16 Hours
  - 24-36 Hours
- Flex Fuel Line
- Primary Fuel / Water Separator

**Vibration Isolators**

- Location
  - Under Tank
  - Between Tank
- Elastomer Isolator
- Pad Isolator
- Standard Spring
- Seismic Spring

---

**Optional Agency Approvals**

- UL2200 (Review Option Availability)
- NFPA110 (Request Remote Annunciator)

**Weight and Dimensions (Open Unit)**

- Weight – Wet: 5510 (2141) lb(kg)
- Overall Dimensions: Length x Width x Height
  - inches: 118 x 48 x 59
  - mm: 2997 x 1219 x 1499

Note: Drawing is provided for reference only. Use engineering outline for installation planning.

---

**Baldor Electric Company**

A MEMBER OF THE ABB GROUP

P. O. Box 2400 • Fort Smith, AR 72902-2400 U.S.A.

Phone (479) 646-4711 • Fax (479) 649-5792 • International Fax (479) 648-5895

www.baldor.com
## Engine Application Data

### Engine Specifications
- **Manufacturer**: John Deere
- **Engine Model**: 6090HF4814
- **Engine Type**: 4 Cycle, 6 Cylinder
- **Induction System**: Turbocharged, Charge Air Cooled
- **Displacement, L (in³)**: 9.0 (548)
- **EPA Emissions Level**: Tier 3
- **Rated Power @ RPM**: 422 (315)
- **Bore and Stroke (in/mm)**: 4.061x5.354 (102.4x136.0)
- **Compression Ratio**: 16.0:1
- **Governor Type/Model**: JDEC Electronic
- **Governor Manufacturer**: John Deere
- **Freq Reg NL to FL**: 8.8 (357)
- **Freq Reg Steady State**: +/- 0.25%

### Engine Lubrication System
- **Oil Pan Capacity**: 8.4 (31.5)
- **Oil Pan w/Filter**: 8.8 (33.2)
- **Oil Filter Quantity**: 1
- **Oil Filter Type**: Cartridge
- **Oil Cooler**: Water Cooled
- **Recommended Oil**: 15W-40
- **Oil Press psig(kPa)**: 38 (260)

### Engine Cooling System
- **Genset Max Ambient Temp °F(C)**: 122 (50)
- **Engine Coolant Cap qt(L)**: 17 (1.61)
- **Engine + Radiator System Cap qt(L)**: 32.8 (31.0)
- **Water Pump Type**: Centrifugal
- **Coolant Flow gpm (Lpm)**: 74 (280)
- **Heat Rejected to Cooling Water @ Rated kW; Btu/min (kW)**: 5920 (104)
- **Heat Rejected to Charge Cooler @ Rated kW; Btu/min (kW)**: 5009 (93)
- **Max Restriction of Cooling Air in H₂O(kPa)**: 0.5 (0.124)

### Engine Exhaust System
- **Exhaust Manifold Type**: Dry
- **Exhaust Flow @ Rated kW cfm(cm³/min)**: 2064 (59)
- **Exhaust Temp (dry manifold) °F(°C)**: 1160 (638)
- **Min Back Pressure inH₂O(kPa)**: 0 (0)
- **Max Back Pressure inH₂O(kPa)**: 30 (7.5)
- **Exhaust Outlet Diameter in/mm**: 4.0 (101.6)
- **Exhaust Outlet Type**: O.D. Tube

### Engine Electrical System
- **Charging Alternator Volts dc**: 24
- **Charging Alternator Amps**: 65
- **Grounding Polarity**: Negative
- **Starter Motor Volts dc**: 24
- **Battery Recommendations**
  - **Battery Volts dc**: 24
  - **Min Cold Cranking Amps**: 800
  - **Quantity Required**: 2

### Ventilation Requirements
- **Cooling Airflow scfm(cm³/min)**: 14417 (665)
- **Combustion Airflow cfm(cm³/min)**: 901 (25.5)
- **Heat Rejected to Ambient From Engine Btu/min(kW)**: 3961 (62)
- **From Alternator Btu/min(kW)**: 2047 (33)
- **Recommended Free Area Intake Louver Size ft²(m²)**: 31.0 (2.68)

### Engine Fuel System
- **Recommended Fuel**: #2 Diesel
- **Fuel Line at Engine**
  - **Supply Line Min ID in(mm)**: 0.44 (11)
  - **Return Line Min ID in(mm)**: 0.38 (10)
- **Fuel Pump Type**: Engine Driven
- **Fuel Pump Max Lift ft (m)**: 6 (2)
- **Max Flow to Pump gph(Lph)**: 63.4 (240.0)
- **Fuel Filter**
  - **Secondary Filter**: 2 μm ± 98% Eff
  - **Secondary Water Separator**: Included
  - **Primary Filter**: 10 μm ± 98% Eff
  - **Primary Water Separator**: Included

### Fuel Consumption - Standby Rating
- **100% Load gph(Lph)**: 19.6 (74.3)
- **75% Load gph(Lph)**: 17.0 (64.2)
- **50% Load gph(Lph)**: 12.0 (45.5)
- **25% Load gph(Lph)**: 6.2 (23.3)

### Fuel Consumption - Prime Rating
- **100% Load gph(Lph)**: 18.4 (69.7)
- **75% Load gph(Lph)**: 15.9 (60.2)
- **50% Load gph(Lph)**: 11.3 (42.7)
- **25% Load gph(Lph)**: 5.8 (22.1)

### Engine Output Deratings - Standby
- **Rated Temp**: 77°F
- **Rated Altitude**: 1,000 ft
- **Max Altitude**: 10,000 ft
- **Temperature Derate**: -1% / 20°F
- **Altitude Derate**: -1% / 2000 ft
Notice of Exemption

PLEASE POST – DO NOT REMOVE BEFORE 02/18/2013

To: County Clerk
County of El Dorado
360 Fair Lane
Placerville, CA 95667

From: El Dorado Irrigation District
2890 Mosquito Road
Placerville, CA 95667
(530) 642-4006

Project Title: Water Pump Station Emergency Backup Generator Installation Project

Project Location - Specific: Georgetown U.S.G.S 7.5" Quadrangle, Township 10N, Range 10E, Section 31; Aukum U.S.G.S 7.5" Quadrangle, Township 9N, Range 11E, Section 23; Camino U.S.G.S 7.5" Quadrangle, Township 10N, Range 12E, Section 30; Clarksville U.S.G.S 7.5" Quadrangle, Township 10N, Range 8E, Section 11

Project Location - City: Placerville, Pleasant Valley, Outingdale, and El Dorado Hills  Project Location - County: El Dorado County

Description of Project: The El Dorado Irrigation District (District) is proposing to install on-site backup diesel generators at the Oro Loma, South Point, and Thorson water pump stations and the Outingdale Water Treatment Plant as a safety precaution in the event of a power outage. The water pump stations currently do not have backup power and are in need of emergency backup generator installation as a safety precaution to provide continuous power for pumping which includes access to water for fire protection. The Outingdale Water Treatment Plant currently has an undersized portable emergency backup generator which will be replaced with an appropriately sized permanent emergency generator to provide continuous power to meet the community water requirements and fire protection in the event of a power outage. Project activities will include installation of an emergency backup generator at each of the four facilities. A concrete slab approximately 16-foot by 8-foot will need to be constructed at each of the sites to support the new generators. The grading will take place in an area that has been previously excavated during the construction of the water treatment plant and the water pump stations, and therefore no trees or shrubs will be disturbed. All construction spoils will be disposed offfsite in accordance with all applicable regulations.

Construction equipment expected to be used during project work includes: a crane, hauling truck, concrete truck, backhoe, soil compactor, pick-up trucks, safety equipment, and miscellaneous hand and power tools. Standard fugitive dust and erosion control BMPs will be employed during and after construction to avoid any impacts to air and water quality. Construction is anticipated to occur during the normal business hours of 7 a.m. to 5 p.m Monday through Friday. Construction activities at each of the sites will occur for approximately one week. No impacts to District customers will occur.

Name of Public Agency Approving and Carrying Out Project: El Dorado Irrigation District

Exempt Status: (check one)

☐ Categorical Exemption. Class 3 (New Construction of Small Structures) CCR, Title 14, Sec. 15303
☐ Statutory Exemption - Declared Emergency (CCR, Title 14, Sec. 15269(a));
☐ Statutory Exemption - Emergency Project (CCR, Title 14, Sec. 15269(b)(c));
☐ Statutory Exemption - Ministerial (CCR, Title 14, Sec. 15268);
☐ Statutory Exemption - (Title) [CCR, Title 14, Sec ]
☐ Other Exemption - (Title) [CCR, Title 14, Sec ]

Reasons why project is exempt: None of the applicable exceptions to this exemption, as identified under CCR, Title 14 section 15300.2, are valid for this project, including location, cumulative impact, significant effect due to unusual circumstances, scenic highways, hazardous waste sites, and historical resources.

Lead Agency Contact Person: Kristin Schaeffer  Area Code/Telephone/Extension: (530) 642-4006

Signature: ___________________________ Date: ___________________________
Name: Kristin Schaeffer
Title: Environmental Review Analyst

☒ Signed by Lead Agency
Subject: Funding approval for District Capital Improvement Plan (CIP) Projects

Recent Board Action:
October 15, 2013: The Board adopted the 2014-2018 CIP, subject to available funding.

Board Policies (BP) and Administrative Regulations (AR):
Staff advised that each CIP project would be presented to the Board for funding approval.

Summary of Issue:
Board approval is required to authorize CIP funding prior to staff proceeding with work on the projects.

Staff Analysis/Evaluation:
The CIP projects identified in Table 1-1 on page 2 require immediate funding.

Funding Source:
The primary funding source for the District CIP projects are listed in Table 1-1. Table 1-1 also lists the projects currently in progress and the amount of funding requested.
The CIP project descriptions for these projects are also attached for review. (Exhibit A)
### Table 1-1
CIP Funding Request

<table>
<thead>
<tr>
<th>Project Name and Number</th>
<th>Total project estimated cost(^1)</th>
<th>Funded to Date</th>
<th>Actual Costs to date(^2)</th>
<th>Amount Requested</th>
<th>Percent of Funds Expended(^3)</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lift Station Elimination Study 13004</td>
<td>$116,000</td>
<td>$66,000</td>
<td>$65,719</td>
<td>$46,000</td>
<td>100%</td>
<td>100% Wastewater rates</td>
</tr>
<tr>
<td>SMUD/El Dorado Agreement Water Rights 06004E</td>
<td>$3,246,322</td>
<td>$2,241,250</td>
<td>$2,236,322</td>
<td>$196,875</td>
<td>99%</td>
<td>100% Water FCC's</td>
</tr>
<tr>
<td>TOTAL FUNDING REQUEST</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$242,875</td>
</tr>
</tbody>
</table>

\(^1\) Includes all existing costs plus any expected costs in the 5 year CIP Plan.
\(^2\) Actual costs include encumbrances.
\(^3\) Percentage of funds expended equals actual cost to date divided by funded to date.

The following section contains a brief breakdown and description of the projects in the table. For complete description of the CIP projects see Exhibit A.
## CIP Funding Request

<table>
<thead>
<tr>
<th>Project No.</th>
<th>13004</th>
<th>Board Date</th>
<th>1/13/2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name</td>
<td>Lift Station Elimination Study</td>
<td>Project Manager</td>
<td>Sullivan</td>
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</table>

### Budget Status

<table>
<thead>
<tr>
<th></th>
<th>$</th>
<th>%</th>
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<tbody>
<tr>
<td>Funded to date</td>
<td>$66,000</td>
<td>--</td>
</tr>
<tr>
<td>Spent to date</td>
<td>$65,719</td>
<td>100%</td>
</tr>
<tr>
<td>Current Remaining</td>
<td>$281</td>
<td>0%</td>
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</table>

### Funding Request Breakdown

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Environmental services</td>
<td>$5,000</td>
</tr>
<tr>
<td>Capitalized labor</td>
<td>$41,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$46,000</td>
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</tbody>
</table>

### Funding Source

100% Wastewater rates

### Description

Several lift stations are in need of rehabilitation which can exceed $1,000,000 per station; however staff performed preliminary site assessments leading to the potential elimination of some lift stations by diverting flows to a nearby downhill lift station. The Ridgeview 7 lift station for example was successfully eliminated in late 2013. Staff has determined that the Mormon Island and Lake Ridge Oaks stations, located in El Dorado Hills can also be eliminated. The design to eliminate these lift stations is nearly complete, however additional funding is needed to complete the environmental assessments and permitting. This funding request covers the continuation of the environmental permitting process which includes staff time, permitting fees and a consultant pre-construction survey. In addition, this request covers project management staff time to complete the preparation of the project for construction bidding.
# CIP Funding Request

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Project Name</th>
<th>Project Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>06004E</td>
<td>SMUD/El Dorado Agreement Water Rights</td>
<td>Cumpston</td>
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## Budget Status

<table>
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<tr>
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<th>$</th>
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</thead>
<tbody>
<tr>
<td>Funded to date</td>
<td>2,241,250</td>
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<tr>
<td>Spent to date</td>
<td>2,236,322</td>
<td>99%</td>
</tr>
<tr>
<td>Current Remaining</td>
<td>4,928</td>
<td>1%</td>
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## Funding Request Breakdown

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>EDWPA Water Rights Cost Share</td>
<td>196,875</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>196,875</td>
</tr>
</tbody>
</table>

## Funding Source

100% Water FCC’s

## Description

Under agreements among the agencies making up the El Dorado Water & Power Authority, the District contributes to EDWPA’s costs in pursuing water rights to be stored in Sacramento Municipal Utility District’s Upper American River Project reservoirs. There is an agreed-upon schedule for member contributions, but actual calls for contributions have occurred more slowly, on an as-needed basis. At its June 26, 2013 meeting, EDWPA set a revised schedule that calls for member contributions in October 2013, January 2014, and April 2014. EID’s shares in the first half of 2014 are $112,500 in January 2014 and $84,375 in April 2014. Staff therefore requests a total of $196,875 to fund the January and April 2014 contributions.
Board Decisions/Options:
Option 1: Authorize funding for the CIP projects as requested in the amount of $242,875.
Option 2: Take other action as directed by the Board.
Option 3: Take no action.

Staff/General Manager Recommendation:
Option 1

Support Documents Attached:
Exhibit A: Capital Improvement Project Descriptions and Justifications.
Tony Pasquarello,
Accounting Manager

Elizabeth Wells, P.E.
Waste/Recycled Water Engineering Manager

Brian Mueller, P.E.
Director of Engineering

Tom Cumpston,
General Counsel

Mark Price,
Director of Finance (CFO)

Jim Abercrombie,
General Manager
**Project Number:** 13004  
**Project Name:** Lift Station Elimination Study  
**Project Category:** Reliability & Service Level Improvements  
**Priority:** 2  
**PM:** Sullivan  
**Board Approval:** 10/15/13

**Project Description:**
Several lift stations are in need of rehabilitation which can exceed $1,000,000 per station; however staff has preliminary information that some of the lift stations in need of rehabilitation may be eliminated by diverting flows to a nearby downhill lift station. Staff will perform a preliminary study to determine the feasibility of eliminating lift stations by analyzing the hydraulics, capacities, easements and constructability of several candidate locations. Eliminating lift stations reduces the cost of operating, maintaining and rehabilitation.

If the study conclusions indicate that the elimination of specific lift station(s) can be accomplished, then staff will return to the board for further funding to design and construct the necessary infrastructure to proceed.

In 2013, staff found that three lift stations can be eliminated in the El Dorado collections system. The Ridgeview 7 lift station is scheduled to be eliminated in 2013 and the Mormon Island and Lake Ridge Oak stations in 2014. This study will continue in 2014 to follow through with the planned 2014 elimination and evaluate other potential locations.

**Basis for Priority:**
Reliability and cost reduction are District priority goals. Several candidate lift stations which are scheduled for rehabilitation may be eliminated, saving the cost of the rehabilitation, periodic labor to operate and maintain and future subsequent rehabilitation cycles. If investigation of eliminating candidate lift stations is performed early enough, it may avoid costly scheduled rehabilitation.

**Project Financial Summary:**

<table>
<thead>
<tr>
<th>Funded to Date:</th>
<th>$ 66,000</th>
<th>Expenditures through end of year:</th>
<th>$ 66,000</th>
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</thead>
<tbody>
<tr>
<td>Spent to Date:</td>
<td>$ 52,688</td>
<td>2014 - 2018 Planned Expenditures:</td>
<td>$ 50,000</td>
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<tr>
<td>Cash flow through end of year:</td>
<td>$ 13,312</td>
<td>Total Project Estimate:</td>
<td>$ 116,000</td>
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<tr>
<td>Project Balance</td>
<td>$ -</td>
<td>Additional Funding Required</td>
<td>$ 50,000</td>
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**Description of Work**

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<thead>
<tr>
<th>Description of Work</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Total</th>
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<tbody>
<tr>
<td>Study/Planning</td>
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<tr>
<td>Design</td>
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<td>Construction</td>
<td></td>
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<td></td>
<td>$ -</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$ 50,000</strong></td>
<td><strong>$ -</strong></td>
<td><strong>$ -</strong></td>
<td><strong>$ -</strong></td>
<td><strong>$ -</strong></td>
<td><strong>$ 50,000</strong></td>
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**Funding Sources**

<table>
<thead>
<tr>
<th>Funding Sources</th>
<th>Percentage</th>
<th>2014 Amount</th>
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</thead>
<tbody>
<tr>
<td>Wastewater Rates</td>
<td>100%</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td><strong>$50,000</strong></td>
</tr>
</tbody>
</table>

**Funding Comments:**

H:\CIP\2014\Wastewater\13004 Lift Station Elimination study
Project Description:
The Sacramento Municipal Utility District and El Dorado County interests, including EID, signed an agreement in 2005 that allows for the use of SMUD's UARP reservoirs for county water storage. The agreement did not include water rights. The transfer of City of Sacramento's or related water rights is the most logical source and application has been made to the SWRCB for that change. The SMUD/El Dorado Agreement provides EID with 30,000 acre feet of storage annually up to 2030. Thereafter, 40,000 acre feet of storage annually is provided. Additionally the agreement allows for the banking of up to 15,000 acre feet for drought carryover storage in dry year conditions.

EID is a party to a cost share agreement with the El Dorado Water and Power Authority (EDWPA) to pursue the water rights for the SMUD/El Dorado Agreement. For 2014, EDWPA has approved "calls" under this agreement through June that total $196,875. For planning purposes, however, projected annual costs are considerably higher for 2014 and 2015, based upon anticipated work. Costs include $10,000 annually of capitalized labor. Any costs associated with one-time acquisition of up to 15,000 acre-feet of drought storage are not included in this request, although efforts to do so are ongoing, because of the uncertain timing and cost of such an acquisition.

Basis for Priority:
The Board of Directors approved the EDWPA cost share agreement in 2007 and its commitment of funding. The existing funding commitment extends through 2014, but given the status of the project, staff anticipates that EDWPA will request an extension.

### Project Financial Summary:

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<thead>
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<tbody>
<tr>
<td>Funded to Date:</td>
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<tr>
<td>Expenditures through end of year:</td>
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<td>Spent to Date:</td>
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<td>Cash flow through end of year:</td>
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<td>Additional Funding Required</td>
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### Description of Work Estimated Annual Expenditures

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<th>2018</th>
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<td>Study/Planning</td>
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<tr>
<td>Construction</td>
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<tr>
<td>15,000 af acquisition</td>
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<tr>
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<td>$120,000</td>
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### Funding Sources

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<tr>
<td><strong>Total</strong></td>
<td>100%</td>
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Funding Comments: