

# Minutes



HUMBOLDT BAY MUNICIPAL WATER DISTRICT  
828 7<sup>th</sup> Street, Eureka



Minutes for Meeting of Board of Directors

January 14, 2016

A. **ROLL CALL**

President Hecathorn called the meeting to order at 9:00 am. Director Rupp conducted the roll call. Directors Hecathorn, Laird, Rupp and Sopoci-Belknap were present. Director Woo arrived at 9:05 from a previous appointment. General Manager Paul Helliker, Superintendent Dale Davidsen, Business Manager John Friedenbach and Board Secretary Sherrie Sobol were also present. Pat Kaspari and John Winzler of GHD were present for a portion of the meeting. Mr. Todd Thorner of JTN Energy participated in a portion of the meeting via telephone.

B. **FLAG SALUTE**

President Hecathorn led the flag salute.

C. **ACCEPT AGENDA**

On motion by Director Laird, seconded by Director Sopoci-Belknap, the Board voted 4-0 to accept the agenda.

D. **MINUTES**

On motion by Director Laird, seconded by Director Rupp, the Board voted 4-0 to approved the Minutes of December 10, 2015 meeting.

E. **PUBLIC COMMENT**

Mr. Neal Latt introduced himself and stated he may apply for the seat being vacated in District 1 in March.

F. **CONSENT AGENDA**

On motion by Director Rupp, seconded by Director Sopoci-Belknap, the Board voted 4-0 to approve the Consent Agenda.

G. **CORRESPONDENCE**

Letter to Jamie Crowell re: service on FGCSB Board of Directors

Mr. Helliker shared the letter regarding the retirement of Jamie Crowell, long-time Fieldbrook- Glendale CSD Board member. Mr. Helliker stated Director Woo attended Mr. Crowell's last meeting and presented the letter to him.

Letter to Congressman Huffman re: watershed issues and Northwest California Mountains and Rivers concept

Last month, the Board learned that the Wilderness Society is working with Congressman Huffman to develop legislation to address forest management practices and to propose additional designations of wilderness and wild and scenic rivers in Northwestern California. The Wilderness Society requested letters of support. Mr. Helliker shared the letter to Congressman Huffman that states the District's interest in not only this topic but cannabis and restoration of forestland damaged by summer fires. The Board stated the letter was well written.



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Letter to Felicia Marcus re: Proposed Regulatory Framework for Extended Emergency Regulation for Urban Water Conservation

Last November, Governor Brown issued another executive order directing the SWRCB to extend the conservation regulations, with potential modifications to reflect local conditions, should the drought persist through January 2016. The District and its Municipal Customers submitted a letter providing comments on the Proposed Regulatory Framework for Extended Emergency Regulation for Urban Water Conservation. The letter requested the SWRCB wait until mid-April to propose a regulatory program to address drought conditions. At that time, the hydrologic conditions will have been fully defined. The District again noted that its service area has ample water supply and is not experiencing drought conditions. Mr. Helliker stated the draft regulations from SWRCB are expected in a few weeks.

**H. CONTINUING BUSINESS**

Retail rate adjustment

Last month the Board received a presentation and discussed the retail rate study. The Board selected a rate structure, agreed to continue with the CPI rate adjustment and incorporate a wholesale pass through. They also directed staff to proceed with the implementation of the retail rate increase.

Mr. Helliker presented information on the implementation process including a revised rate table, Proposition 218 Notice and customer fact sheet for the Board's consideration. He noted that Director Woo helped improve the wording in the Prop 218 Notice. The rate study shows a 16% increase is needed. In addition, capital replacement expenses require a 14% increase to fund the estimated replacement costs of the distribution system. To reduce the impacts on the District ratepayers, the proposed rate plan phases in the capital replacement costs over five years, in yearly increments of 20% of the total. Mr. Helliker conveyed that he and Mr. Friedenbach have met with retail business representatives from DG Fairhaven Power, Humboldt Bay Harbor District and Town of Samoa regarding the rate changes. These three customers represent nearly 90% of the retail water consumption. They understood the reasons why a rate increase is being proposed. A meeting is scheduled for tomorrow with Sequoia Investments. Meetings for the public will be scheduled once the proposal and Prop 218 notice are approved. The new rates are proposed to become effective April 1, 2016.

After a brief discussion, on motion by Director Sopoci- Belknap, seconded by Director Rupp, the Board voted 5-0 to approve the rate proposal and the Proposition 218 Notice.

ReMAT contract with PG&E

At the October meeting, the Board discussed opportunities to increase revenue from hydropower. Currently, the District has a contract with PG&E to supply power via a Standard Offer Contract. The contract is very basic and does not require any level of production to be met, however, the price paid for power is low, roughly \$0.03/kWh. JTN Energy, LLC and Henwood Associates, Inc. (collectively referred to as JTN) presented a proposal to assist the District in negotiating a favorable ReMAT contract with PG&E. The current price offered with ReMAT is \$0.0893/kWh. JTN offered to structure the project with two "off ramps" in case the District decides not to go with ReMAT. The first off-



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ramp is after JTN negotiates a Generator Interconnection Agreement with PG&E, which is required for any producer that wants to sell power in the marketplace (except under the provision of a Standard Offer contract which the District currently has). The second off-ramp would be at the point where JTN would have negotiated a ReMAT contract with PG&E for the District. At this point, the guaranteed energy production level would be known as well as associated risks with not meeting the production. Given the off-ramps, the Board agreed to have JTN negotiate an interconnection agreement with PG&E not to exceed \$5,000.

Mr. Helliker stated JTN has secured an interconnection agreement with PG&E. The next step is to reserve a spot in the next cycle of contract negotiations. To do this, a new contract is needed with JTN. Mr. Thorner of JTN Energy participated in the discussion via phone. He shared some good news regarding estimated third party costs. JTN estimated \$25,000 for PG&E Telemetry. PG&E declined to charge telemetry costs, thus saving the District \$25,000. March and May are the next windows to proceed with a contract and although there are no guarantees, it looks like the ReMAT rate of \$.0893cents/kWh should hold till then.

Director Rupp stated first of all, the Board has not seen the Interconnection Agreement to evaluate the results of the first phase. Also, if the District moves forward with ReMAT, he wants to make it clear to the local CCA (if formed) that this is strictly a business decision. Mr. Helliker stated he just received the contact. Both Mr. Helliker and Mr. Thorner stated it is beneficial to the District. Director Laird voiced concerns with moving forward with the contract as this would shut the door on our local CCA and show that we are not supportive of it. Director Woo pointed out that if the District sold energy to CCA instead of PG&E with ReMAT, it would only amount to half a percent of the CCA portfolio. The District is showing support of the CCA by our active participation with RCEA. President Hecathorn stated she is supportive of a CCA but the District's responsibility is to its ratepayers. With ReMAT, the District gets a better rate which in turn benefits the ratepayers. Mr. Helliker stated in addition to RCEA, the District can show support for a CCA by either selling or buying power from them. It seems like the District would be more supportive by buying power from them, versus selling them power. In response to Director Rupp's comment regarding the contract, Mr. Helliker stated he has read the contract, however, the agreement with PG&E can wait until May once the Board has had an opportunity to review the contract. He also noted the contract looks good and can be cancelled with twenty days notice to FERC. Mr. Thorner stated seventy five percent of the contract is FERC pro-forma and non-negotiable. It is the twenty five percent that is negotiable and where PG&E chose not to include telemetry costs. He added there are no costs going forward on the interconnection agreement and that it is independent of a ReMAT agreement.

Director Rupp stated he is prepared to vote yes to approve a contract with JTN energy since staff believes we are moving in the right direction and Mr. Thorner states the agreement is standard and routine. On motion by Director Rupp, seconded by Director Woo, the Board voted 5-0 to approve the contract with JTN and move forward with the Interconnection Agreement.



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Appointing New Director

Mr. Helliker shared the Notice of Vacancy for Division 1 and inquired if the Board would like any changes. Director Sopoci-Belknap requested Manila CSD be removed from the boundary description and replaced with Samoa Peninsula since it covers more than the Manila CSD service area.. On motion by Director Laird, seconded by Director Woo, the Board voted 5-0 to approve the notice as amended.

Update on Cannabis activities

Last year, three bills passed in the legislature that set up a licensing program for cannabis production and distribution that have now gone into effect. In the legislation is a deadline of March 1, 2016 for cities and counties to adopt their own rules. If this is not done, then the state program would be in force. Mr. Helliker provided a brief update on cannabis activities in the county and state. The City of Eureka banned commercial growing. The County is considering a plan similar to the State and will revisit the topic later this month.

The Regional Water Quality Control Board developed a compliance education program, including enrollment clinics, to assist cannabis growers with meeting the Regional Board's order that requires growers be enrolled by February 16, 2016. If they fail to enroll, penalties are assessed. Mad River Alliance and EPIC are organizing five additional compliance workshops that include presentations by the Regional Board, the California Department of Fish & Wildlife, CalFire and other industry specialists. Information presented includes regulatory compliance, compliance mechanisms, and best management practices. Since best management practices involve being environmentally responsible and helps protect the river, the Board previously agreed to assist Mad River Alliance with their workshops at a cost not to exceed \$5,000. Mr. Helliker shared that the District did provide financial assistance for the preparation of workbooks as well room rentals for the meetings. The Board stated they appreciate Mad River Alliance taking the lead on this and requested Mr. Helliker pass this on to Mr. Feral.

Water Resource Planning

Mr. Helliker stated there is no new info regarding local sales or transport. He is checking with the Coastal Conservancy to see if any grants are available for studies needed for the instream flow option. He stated he is meeting with some resource agencies to discuss flows in the Mad River and inquired if Director Laird or Woo would like to attend. Director Woo stated she would like to participate.

The Water Resource Planning Advisory Committee will meet on February 3. Directors Rupp and Sopoci-Belknap will meet with Mr. Helliker prior to that to help with agenda topics for the meeting.

Previously, the Board inquired about total costs spent on the Water Resource Planning process over the last several years. Mr. Helliker stated the total to date spent on the process is \$394,378. The Board asked that the costs be broken down by the three areas of exploration: Local Sale, Instream Flows and Transport.



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I. NEW BUSINESS

Board Officer and Committee Assignments

Mr. Helliker stated no changes are necessary, but the Board does have the option to change committee assignments. No changes were made regarding Board officers and committee assignments.

Director Rupp stated his term at LAFCO is up for re-election and he would like to run for the position. On motion by Director Sopoci-Belknap, seconded by Director Laird, the Board voted 5-0 to nominate Director Rupp for LAFCO.

In regards to the list of Other Appointments, Director Rupp is now the Vice Chair of the ACWA-JPIA Finance Committee and is the voting delegate from ACWA JPIA. Staff will make the changes to the listing.

J. REPORTS (from Staff)

1. Engineering

Ranney Collector 1 Lateral Replacement Project (partially funded by Prop 84 NCIRWMP grant)

At the December meeting, Mr. Kaspari stated the only bid received for the project was from Layne Christensen at \$2,024,500 and it was over budget by half a million dollars. The Board discussed options and requested Mr. Kaspari go back to Layne Christensen and see what costs could be lowered or renegotiated if the District were to do some of the work.

Mr. Kaspari reported he did speak with Layne Christensen and the District does have some options to reduce the cost of the project. If District staff installed plumbing for the dewatering system and river sampling, this would reduce the cost by \$124,000.

Mr. Helliker stated the Collector 1/1A project was discussed at the Municipal Customer meeting. They are aware it is over budget by \$590,531 and are still supportive of the project given the likely significant increase in water production capacity. They suggested making up the difference via continued advance charges and are supportive of using the DWFP reserve. Additionally, they are willing to forgo the increment in revenue that is expected with a new hydroelectric power contract in order to repay the DWFP reserve.

Staff recommends approval of the Notice of Award to Layne Christensen Company for the performance of the entire project in the amount of \$2,024,500, then issue a Change Order to revise the scope of work with the final awarded contract amount in the \$1,900,000.

This is based on the support of the Municipal Customers, the potential for increased production from the 1/1A project to the extent that the next collector renovation can be delayed for several years, and that this collector represents the last chance at water in the river. Mr. Kaspari stated Layne Christensen is agreeable to the changes.

On motion by Director Woo, seconded by Director Sopoci-Belknap, the Board voted 5-0



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to authorize the Notice of Award to Layne Christensen Company, followed by a Change Order to revise the amount of \$1,900,000.

Blue Lake-FG CSD Water Line Replacement over Mad River (funded by Prop 84 NCIRWMP grant and FEMA Hazard Mitigation Grant)

Mr. Kaspari stated the geotech work is done and the report sent out. He should have more information at the next meeting.

Surge Tower Demo and other projects for NOI

Mr. Kaspari stated the Cal OES Notice of Interest (NOI) for the Hazard Mitigation Grant is out. He met with Mr. Helliker, Davidsen and Friedenbach to discuss submitting the project. They decided to submit the Surge Tower project as well as two others: the relocation of the 12kv switchgear and the Spillway walls at Ruth Dam. Mr. Kaspari stated they have been monitoring the spillway walls and there has been no movement yet. The project would buttress the wall. He reiterated that there is no indication of movement, but it is good to be prepared.

IMG Reservoir

The inspection of the reservoir is scheduled for today. The results will help determine if the roof can be repainted or needs to be replaced.

2. Financial

Financial Report

Director Rupp provided the December financial report. Director Sopoci-Belknap reviewed the bills and had no questions. On motion by Director Rupp, seconded by Director Sopoci-Belknap, the Board voted 5-0 to approve the December 2015 financial statement & vendor detail report in the amount of \$231,955.68.

County Treasury Report

Mr. Friedenbach discussed the County Treasury report on Interest Apportionment Rate and Other Considerations for the quarter ending September 2015. Interest is at .80% as compared to LAIF at .32%.

IRS Section 125 POP

The District previously adopted an incentive plan for employees to switch to a consumer driven health plan (CDHP). The District will pay the annual deductible for the CDHP via deposit to the employees Health Savings Account (HSA), as long as the total cost of the premium plus deductible is less than the maximum benefit level provided by the District. Mr. Friedenbach shared that one employee has switched to this plan. He then discussed the advantages to having an IRS Section 125 Plan. In addition to the employer contribution to the employees HSA, the employee can also make contributions. The voluntary employee contributions can be made on a Federal "pre-tax" basis from the employee's paycheck if the employer has an IRS Section 125 benefits plan in place. The employer would also save on the Federal employer taxes on these pre-tax contributions.



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Additionally, employee medical premium co-pays also qualify for the Pre-Tax features of a Section 125 Plan. This would benefit eleven District staff members.

Health Equity is the preferred HSA account provider for JPIA. Health Equity will prepare the necessary Section 125 POP documentation for a one-time fee of \$250. The JPIA's attorney can do this also, however, charges \$500 and it can take up to six months for the necessary paperwork. JPIA negotiated a reduced individual account fee with Health Equity of \$2.95 per month (reduced from \$3.95) for JPIA members. The JPIA automatically reports enrollment to Health Equity so the District does not need to open accounts for its participant employees. Additional staff time will be minimal since it will be part of the payroll process. Staff recommends approval for implementation of an IRS Section 125 POP using JPIA's preferred provider Health Equity. On motion by Director Rupp, seconded by Director Woo, the Board voted 5-0 to implement an IRS Section 125 POP plan and use Health Equity to establish the accounts.

3. **Operations**

Mr. Davidsen provided the December operational report. The maintenance crew went to Ruth to begin installation of a culvert to prevent erosion from runoff from the burnt slide above the Hydro Plant access road. Mr. Ivey, the newest Operations and Maintenance Technician started work and is doing well. Topics for safety meetings for December included training on new chlorine leak repair devices, 2MW generator operation refresher and practice and review for procedures for putting on and removing ISI self-contained breathing apparatus. Also, an unannounced inspection of diesel generators at Essex was conducted by the Air Quality Management District. The inspector stated everything looked good and a written report would be forthcoming.

K. **DIRECTOR REPORTS & DISCUSSION**

1. **General**

The Board discussed moving the March meeting date since Mr. Friedenbach has a leadership training on March 10. They agreed to move the March meeting up one day to the 9<sup>th</sup>.

2. **ACWA – JPIA**

Mr. Helliker stated the District received two Special Recognition Awards. The awards are for achieving a low ratio of "Paid Claims and Case Reserves" to "Deposit Premiums" in the Property Program and Workers' Compensation Program.

3. **ACWA**

President Hecathorn acknowledged receiving a Certificate of Appreciation for her time and commitment serving on the ACWA Region 1 Board for the 2014-15 term.

Director Woo is the new Region 1 Board member and stated she will soon be attending the ACWA Region 1 meeting in Hidden Valley.





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**4. Organizations on which HBMWD Serves: RCEA, RREDC, LAFCo**

Director Woo reported out on the RCEA meeting. The topic was Community Choice Aggregation (CCA). A member of the public in attendance recommended against a CCA.

The RREDC meeting was cancelled and the next LAFCo meeting is next month.

**ADJOURNMENT**

The meeting adjourned at 11:15 am.

Attest:

\_\_\_\_\_  
Barbara Hecathorn, President

\_\_\_\_\_  
Kaitlin Sopoci-Belknap, Asst. Secretary/Treasurer

# Consent

**HUMBOLDT BAY MUNICIPAL WATER DISTRICT**

828 SEVENTH STREET, PO BOX 95 • EUREKA, CALIFORNIA 95502-0095

OFFICE 707-443-5018 ESSEX 707-822-2918

FAX 707-443-5731 707-822-8245

EMAIL [OFFICE@HBMWD.COM](mailto:OFFICE@HBMWD.COM)**BOARD OF DIRECTORS**

BARBARA HECATHORN, PRESIDENT  
ALDARON LAIRD, VICE-PRESIDENT  
J. BRUCE RUPP, SECRETARY-TREASURER  
KAITLIN SOPOCI-BELKNAP, DIRECTOR  
SHERI WOO, DIRECTOR

**GENERAL MANAGER**

PAUL HELLIKER

January 13, 2016

To: Kevin Hamblin, Humboldt County Community Development Services Dept.  
Robert Wall, Humboldt County Planning Dept.  
Mark Andre, City of Arcata  
Brian Gerving, City of Eureka  
David Hull, Humboldt CSD  
Greg Orsini, McKinleyville CSD  
Vicki Hutton and John Berchtold, City of Blue Lake  
Rebecca Crow & Rick Hanger, Fieldbrook-Glendale CSD  
Chris Drop, Manila CSD

Re: 60-Day Notice Regarding Review of HBMWD's Urban Water Management Plan

California Water Code (CWC) 10621(b) requires an urban water supplier preparing an Urban Water Management Plan (UWMP) to notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. CWC further requires each urban water supplier to coordinate the preparation of its UWMP with other appropriate area agencies including other water suppliers that share the same water sources, water management agencies, and other relevant public agencies.

This letter is the Humboldt Bay Municipal Water District's (HBMWD) notice to your agency that HBMWD is in the process of reviewing and updating its UWMP. As with the 2010 UWMP, HBMWD is preparing its 2015 UWMP in collaboration with the City of Arcata, the City of Eureka, Humboldt Community Services District, and McKinleyville Community Services District. If your agency would like to provide input or be involved in the review process you are encouraged to contact myself or any of the above named agencies to coordinate your participation.

If you have any questions please feel free to call me at (707) 443-5018.

Sincerely,

A handwritten signature in black ink, appearing to read "Thavisak Syphanthong", with a long horizontal flourish extending to the right.

Thavisak Syphanthong  
Program & Regulatory Analyst

cc: Paul Helliiker and John Friedenbach, HBMWD  
Mary Lou Cotton, Kennedy/Jenks Consultants



## HUMBOLDT BAY MUNICIPAL WATER DISTRICT

828 SEVENTH STREET, PO BOX 95 • EUREKA, CALIFORNIA 95502-0095

OFFICE 707-443-5018 ESSEX 707-822-2918

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### BOARD OF DIRECTORS

BARBARA HECATHORN, PRESIDENT  
ALDARON LAIRD, VICE-PRESIDENT  
J. BRUCE RUPP, SECRETARY-TREASURER  
KAITLIN SOPOCI-BELKNAP, DIRECTOR  
SHERI WOO, DIRECTOR

January 8, 2016

### GENERAL MANAGER

PAUL HELLIKER

Charles Ahlgren  
Director of Hydro Facilities Safety  
Cardno  
2300 Clayton Road Suite 200  
Concord, CA 94520-2164

Dear Charles,

In connection with Cardno's review of existing HBMWD data for the dam and reservoir, you have requested:

- o 2 Most recent Part 12 reports
- o Existing STID
- o Existing DSSMP / DSSMR
- o Draft seismicity report
- o Draft slope stability study for slope adjacent to right abutment
- o Any pertinent FERC communications during the last 5 years
- o List of significant operating events (flood earthquake) during the last 5 years
- o Any gate operational testing reports during the last 5 years
- o EAP for the dam

In response to your request, we are providing electronic copies of the following items contained on the four enclosed CD's for your viewing and review:

1. HBMWD FERC Files 1 –
  - a. DSSMR 2014
  - b. EAP 2013
  - c. DSSMP 2013
  - d. ODSP 2014
2. GEI Consultants – R.W. Matthews Dam STID and Part 12, October 2006
3. R.W. Matthews Dam 7<sup>th</sup> Part 12D Safety Inspection Report, November 2011
4. R.W. Matthews Dam 2012 STID Rev. 1

In addition, we have enclosed paper copies of:

- A. GEI Seismic Report, December 2015, draft
- B. David Lindberg, Slope Stability Analysis Report, July 2015, final

Other relevant FERC correspondence, significant events, and slide gate operation data will be sent to you next week. We are still reviewing the proposed schedule internally and will confirm back with you next week.

If you have any questions, or need any additional information, please do not hesitate to contact us.

Regards,



John Friedenbach  
Business Manager

Encl

Cc: Paul Helliker w/o encl

*SF Chronicle 1-13-16*

# El Niño is helping, but no end of drought in sight yet

**By Kurtis Alexander**

Recent rains have put so much water in Humboldt County's Mad River that the reservoir serving Eureka and Arcata is overflowing — just as it did four times this past year.

Three hundred miles to the south in the Santa Cruz Mountains, tiny Lompico Creek is hardly a trickle. The stream is too low to meet local water demands, and the area's supplier, whose two wells are also underperforming, had to build an emergency pipeline to ship reserves from a neighboring community.

Ask water managers in different parts of California when they expect they might shake free of the worst drought in a generation — and whether a wet El Niño winter could be their savior — and you're likely to get a lot of answers. Those answers depend on where people live and what source of precious water they're tapping.

"We haven't been suffering any drought conditions," said Paul Helliker, general manager of Humboldt Bay Municipal Water District, where the spillway at the North Coast's Ruth Reservoir has been opened to release surpluses.

But Chris St. Germain, a board member for the Lompico water district, where rigid water quotas remain in effect because of the shortage, was far less serene.

"It's going to take us a couple years to recover," she said. "Even if we get the steady rain we've been getting, it's not going to be enough."

California's diverse water supplies, varying weather and fluctuating demand mean there won't be a single point when the state's water problems come to an end. And there's no uniform definition of what constitutes a drought.

## **Storms inspire hope**

But while most communities remain a long way from recovery, recent storms and the prospect of wet weeks thanks to El Niño have inspired hope. In general, water experts say many parts of the state will see drought relief this winter if precipitation and snowpack can run 50 percent above average.

Much of California currently stands around normal for both metrics. San Francisco, for example, is at 90 percent of average rainfall since July 1, while Los Angeles is at about 120 percent, according to the National Weather Service.

Meanwhile, snowpack in the Sierra is at 103 percent of normal, according to the state Department of Water Resources.

## **Months of rain to come**

The wild card is that two or three months remain in the potentially promising wet season.

"We have to wait and see what the full winter and spring provides," said California's climatologist, Mike Anderson. "It may seem wetter than we're used to (so far), but only because it's been a while since we've had an average winter."

Anderson said the state's last two major droughts, in the late 1970s and early 1990s, came to an end when annual precipitation in the northern Sierra swelled to 143 percent of average and 131 percent, respectively. Snowpack in the Sierra during both of those drought-busting winters — 1977-78 and 1992-93 — surpassed 150 percent of average at peak.

"It seems like we've gotten into a comparable situation now," Anderson said.

Brian Fuchs, a climatologist who maps water conditions for the National Drought Mitigation Center, recently downgraded the intensity of California's drought, but only slightly. His report last week showed 45 percent of the state in the most severe category of drought, down from 46 percent three months ago.

Even with the recent storms and more in the forecast, Fuchs said recovery after four dry years will take time — reservoirs are low, soils are dry, and groundwater reserves are widely depleted. His organization looks at nearly 50 factors to gauge the state of the drought.

"The impacts associated with the drought that have accumulated are not going to go away that quickly," he said. "If we continue on this (wet) path, by springtime I can see much of the drought intensity easing up, and we may even see more areas become drought-free. But it would really take a lot to see it erase all the impacts."

According to Golden Gate Weather Services, California has lost the equivalent of a full year of rain during the past four. Meteorologist Jan Null said that while water deficits vary by location, it's a good indication of just how far behind the state has fallen.

#### **Record rain needed**

"Most places would have to set a record this year to get through the deficit," he said.

Communities will only get out of the drought, Null said, when each individually determines its water supply is in balance with its needs, whether the needs are in agriculture, business or residential use.

"Beauty is in the eye of the beholder, and it's the same thing here," he said.

Gov Jerry Brown's official declaration of a drought, which prompted an unprecedented series of statewide water restrictions, came in January 2014. A spokesman for the administration said Tuesday it's far too early to speculate if and when the proclamation might be rescinded.

#### **Cautious in San Francisco**

In San Francisco, water managers who deliver supplies from the Sierra to much of the Bay Area are similarly cautious about projecting an end to the drought. Reserves held by the city Public Utilities Commission stand at 47 percent of capacity — 60 percent of where they typically are at this time of year.

Citing historical weather data, agency officials said the system has about a 25 percent chance of filling up this winter

— odds that may be slightly higher with El Niño.

While maxing out reserves is about the best the agency can ask for, Assistant General Manager Steve Ritchie said that still doesn't mean people should act as if the drought is drawing to a close.

"I won't say it's over because we've got to assume that next year will be bad even if this year is good," he said. "It won't change how we look at our water supply."

Kurtis Alexander is a San Francisco Chronicle staff writer. E-mail: [kalexander@sfchronicle.com](mailto:kalexander@sfchronicle.com)

Twitter: [@kurtisalexander](https://twitter.com/kurtisalexander)



**Photos by Lea Suzuki / The Chronicle**

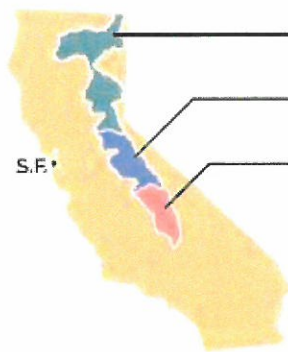
People walk along a path next to Crystal Springs Reservoir, which is starting to show a slow return to normal.

## Drought recovery

As of Jan. 12

Water experts say El Niño storms are providing a good start to California's wet season, but a lot more are needed to end the drought. Statewide rainfall and Sierra snowpack, two indicators of drought conditions, are hovering around average.

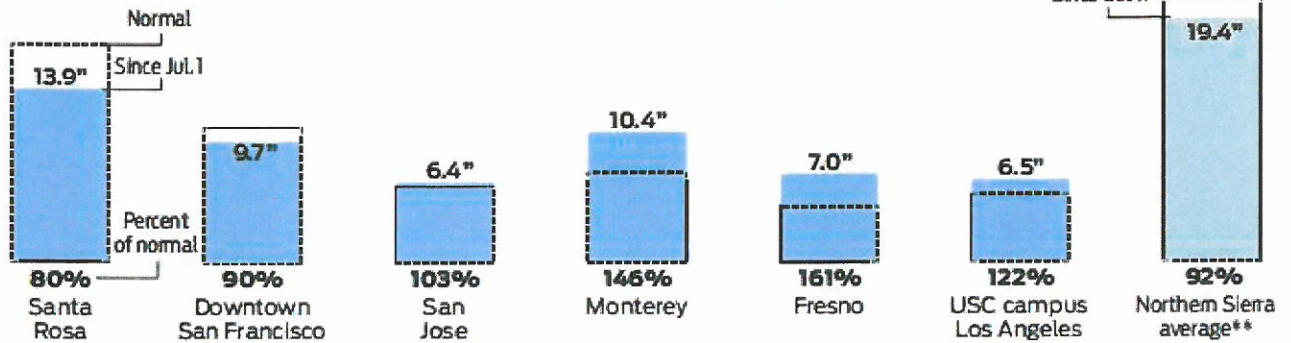
## SNOW WATER CONTENT



	Percent of normal		Snow equivalent
	Jan. 12	April 1	
Northern Sierra	104%	47%	13.7"
Central Sierra	107%	48%	14.3"
Southern Sierra	94%	38%	9.7"
State average	103%	45%	12.7"

April 1 is the date of normal maximum accumulation for the season.

## RAINFALL COMPARISON



\*The Department of Water Resources uses Oct. 1 as the beginning date of recording annual rainfall amounts. The National Weather Service uses July 1.  
Sources: National Weather Service, Department of Water Resources

\*\*B-station index including; Mount Shasta City, Shasta Dam, Mineral, Quincy, Brush Creek, Sierraville, Blue Canyon and Pacific House  
John Blanchard / The Chronicle



**SFGATE**<http://www.sfgate.com/bayarea/article/Northern-California-salmon-run-devastated-again-6799294.php>

## Northern California salmon run devastated, again, by drought

By **Kurtis Alexander** Updated 6:35 pm, Monday, February 1, 2016



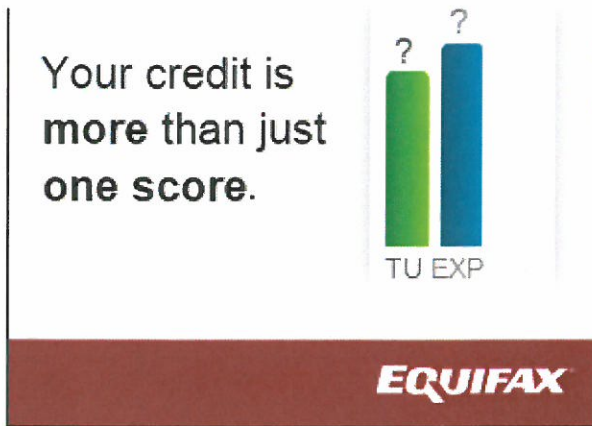
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Fish Culturist William Hopkins displays a handful of the 425,000 endangered winter run Chinook Salmon currently being raised in large tanks at the Livingston Stone Federal Fish Hatchery, on Wednesday December 9, 2015, at Shasta Lake, Calif. The fish will be released into the Sacramento River in late January 2016. [less](#)

One of California's last great salmon runs tallied a perilously low number of surviving offspring in 2015, scientists said Monday, marking a second year of drought-driven problems for the Sacramento River chinook, which loom on the verge of extinction.

The **National Oceanic and Atmospheric Administration's Fisheries Service** reported that just 3 percent of the run's juvenile salmon survived their historic migration to sea, again dying in large numbers because the river was simply too shallow and too warm to tolerate.

State and federal officials, after



witnessing a grim 5 percent survival rate in 2014, took steps to boost river levels for the fish last year, most notably introducing a controversial strategy of withholding irrigation water from Central Valley farmers. But that was to little avail.

“We just didn’t have enough cold water to work with,” said **Maria Rea**,

West Coast assistant regional administrator for the Fisheries Service. “Despite everybody’s best efforts, the plan wasn’t effective in preventing really significant mortality.”

This week’s dire figures may portend even greater water restrictions for agriculture in the future, as well as further limits on commercial and recreational fishing.

The coming year is crucial for the chinook salmon. The fish have a three-year spawning cycle, meaning the next class will be the only one that hasn’t suffered a debilitating blow and represents the last chance of spurring a rebound for the federally listed endangered species.

Fish in the run, one of three distinct populations on the Sacramento River, are born in the far reaches of Northern California and typically make their way south through the Golden Gate to the Pacific Ocean, before returning to their freshwater birthplace three years later.

All of the runs have suffered over recent decades as river water has been diverted for farming, and as valuable habitat in the flood plain has been lost. But the winter population has fared worst.

Last year, water releases were limited at Shasta Dam on the Sacramento River in the spring so there would be more water — and colder water — for salmon in the dry, warm summer months.

Nevertheless, too little water collected behind the dam because of meager mountain snowmelt during the drought. As a result, temperatures in the river rose from an ideal high of 55 degrees to 58 degrees at times, proving a death knell for the young fish.

Farmers criticized the restoration plan as another that prioritizes fish over farming. Many had planted their fields in anticipation of getting irrigation water in the spring, only to see crops die of thirst after releases at Shasta were curtailed.

Environmental groups and fishermen, however, said too little was still being done to protect the fish. On Monday, the **Golden Gate Salmon Association** was among the first to call for more restrictions on water releases.

“Salmon fishermen and their families will pay a price for water allocation decisions made by others that decimated winter-run salmon in the Sacramento River the last two years,” said **John McManus**, the association’s executive director.

The Fisheries Service manages a salmon hatchery that it expects to help stop the chinook’s downward spiral, but Rea said a new plan to ensure adequate cold water is vital.

Federal officials are recommending that a high of 55 degrees is maintained on the river, an effort that Rea says hinges on the weather.

“Whether or not they can meet that is going to depend on hydrology and whether it keeps raining and how much snow we get,” she said.

*Kurtis Alexander is a San Francisco Chronicle staff writer. E-mail: [kalexander@sfgate.com](mailto:kalexander@sfgate.com) Twitter: @kurtisalexander*

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**H E A R S T**

WATER & DROUGHT FEBRUARY 1, 2016 9:32 AM

# Buoyed by recent rains, Folsom Lake levels triple

## HIGHLIGHTS

El Niño storms help lake rebound from record low

Dam operators soon may release water for flood control

Regulators caution that impacts from historic drought continue



< 1 of 2 >



BY PHILLIP REESE, RYAN SABALOW AND DALE KASLER  
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What a difference a month of rain makes.

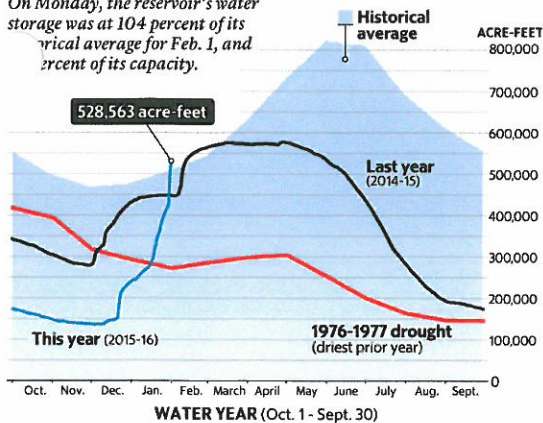
Two months ago, Folsom Lake stood at its lowest depth in history, and federal officials were engineering a special pumping system to ensure drinking water would keep flowing to Sacramento suburbs.

Following a month of persistent rain and snow in Northern California, lake levels are triple what they were in early December, and the reservoir contains more water than average for early February.

Lake levels have rebounded so fast, in fact, that after four years of drought, officials are talking about releasing water downstream in the near future to mitigate flood risks caused by a wet winter and an increasingly full lake. Such releases happen routinely in a typical Northern California winter – flood control is a primary purpose of Folsom Dam. But it's been years since the reservoir has reached flood-control stage.

### Folsom Lake water storage

On Monday, the reservoir's water storage was at 104 percent of its historical average for Feb. 1, and 54 percent of its capacity.



Source: California Department of Water Resources The Sacramento Bee

Since early December, a series of storms has added about 393,000 acre-feet, or 128 billion gallons, to Folsom reservoir. On Saturday alone, the lake gained about 71,000 acre-feet, the largest single-day increase in a decade. As of Monday, Folsom Lake was at 104 percent of average for this time of year and at 54 percent of total capacity. Two months earlier, it was at 14 percent of capacity.



Much of the rebound stems from runoff from Sierra storms. But the striking rise also reflects how little water federal operators have released from the lake in recent months. Daily water releases from Folsom averaged just 600 cubic feet per second in December and January, state data show. During the last wet winter, five years ago, average daily releases were more

than 13 times as high.

And the return to more typical snowfall in the northern Sierra means Folsom Lake levels likely won't plummet again soon. The mountain snowpack that supplies the lake in spring and summer is an estimated 20 percent above average for early February.

Still, lots of water in Folsom Lake doesn't mean the drought is over. Folsom is the smallest of Northern California's major reservoirs, and so it fills up more quickly than others. No other major reservoir in the state has reached normal levels or is near flood-control stage. Most reservoirs aren't even close.

State regulators say at least one of three things would need to happen for the drought to end: Statewide reservoir storage would need to be at 90 percent of average levels; runoff forecasts for the state's water year, which runs from October through September, would need to be 110 percent of average; or reservoirs on the four major rivers in the Sacramento River basin would have to reach flood-control stage.

Shasta Lake is at 76 percent of average depth for this time of year; Lake Oroville is at 66 percent; and Trinity Lake is at 40 percent. Combined, those lakes have about 10 times the storage capacity as Folsom Lake.

"It will take them more than one wet year to recover from their condition," said Tom Gohring, executive director of the Sacramento Water Forum.

Given continued concerns, the State Water Resources Control Board is expected Tuesday to extend through October the mandatory water cuts it ordered last year for urban residents across California. The agency has proposed relaxing the mandates slightly for many local water agencies to account for the difference in climate between coastal and inland regions. But most communities in the Sacramento region still will be required to cut usage by 25 percent or more compared to 2013.

Monday brought other sobering reminders about the lingering impacts of California's historic drought. The National Marine Fisheries Service released data confirming an alarming decline in the population of the winter-run Chinook salmon, an endangered species native to the Sacramento River.

Drought has diminished the supply of cold river water the salmon need to spawn and survive. Last year, federal officials held more water behind Shasta Dam, at the expense of farmers and cities, in hopes of creating deep cold-water pools to aid the fish. Simultaneously, they released more water than normal from Folsom Dam to keep ocean salt water from overwhelming the Sacramento-San Joaquin Delta, which serves as the hub of the state's water-supply network.

The plan failed. The river heated up anyway, and the National Marine Fisheries Service said Monday that only 3 percent of the juvenile salmon survived last year. It marked the second straight year that the vast majority of juvenile winter-run Chinook salmon were cooked to death in the Sacramento River; in 2014, only 5 percent of the juveniles survived.

Already, farmers, fishermen and environmentalists are fighting over what to do this year about the salmon. Because Chinook have a three-year spawning cycle, the 2016 season is considered critical to keeping the salmon from heading to the brink of extinction. The state is considering storing even more water at Shasta this spring. For farmers, that would mean another year of severely diminished supplies.

The best tonic for winter-run Chinook – and Folsom Lake – would be continued steady precipitation this winter, particularly in the form of snow in the Sierra. But a bountiful snowpack is not assured. After a wet start to 2016, there is no heavy precipitation in the forecast for Sacramento or the area over the next seven days.

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WATER & DROUGHT FEBRUARY 2, 2016 10:12 AM

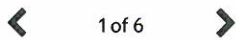
# California extends mandatory water cuts despite growing snowpack

## HIGHLIGHTS

State regulators, urging caution, extend conservation mandates through October

Latest tally shows Sierra snowpack above normal

Sacramento water officials sought more leniency on conservation



BY RYAN SABALOW, PHILLIP REESE AND DALE KASLER  
[rsabalow@sacbee.com](mailto:rsabalow@sacbee.com)

PHILLIPS — The snow keeps piling up, but the rules requiring water conservation aren't going away.

California's drought regulators agreed Tuesday to extend water conservation mandates through the end of October. The decision came in spite of increasing evidence that El Niño is delivering better-than-average precipitation, including an encouraging measurement of the Sierra Nevada snowpack recorded just hours earlier.

The new regulations adopted by the State Water Resources Control Board mean urban Californians will have to reduce their water usage between March and October by about 23.4 percent compared with the baseline year of 2013.

That represents a slight easing of the existing mandates expiring this month, which require a savings rate of 25 percent compared to 2013. Sacramentans will be among the main beneficiaries of the relaxed rules, as the state board voted to ease requirements for hot inland communities where it takes more water to keep trees and lawns alive.

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The state board voted after hearing hours of dispute and concern from stakeholders on all sides of the issue. Environmentalists argued against relaxing the rules, saying Californians need to save as much water as possible given the lingering effects of the current drought and the forecasts for longer, more frequent dry spells ahead.

Scores of local water officials countered with pleas for additional leniency, especially in winter, saying it's tough to maintain conservation efforts when rain and snow are falling. Other local officials wanted more credit for work they've done to improve their supplies.

A somewhat exasperated Felicia Marcus, the state board's chairwoman, shot back at suggestions by some local officials that the conservation mandates should be abandoned altogether while it's raining.

"If we add up everything everyone is asking for, we'd have to give water back," Marcus said. The board has pledged to revisit the rules in the spring, when a full accounting of the winter rain and snow can be made.

Ninety miles east of Sacramento, employees from the state Department of Water Resources unearthed fresh evidence that this season promises at least some relief from the state's historic drought, now in its fifth year.

As a steady but moderate snow fell, DWR employees conducted the season's second manual measurement of the Sierra Nevada snowpack at Phillips, near Echo Summit off Highway 50. The findings: 76 inches of snow, or 25.4 inches of water content. That's 130 percent of average for the Phillips location for early February.

By comparison, the snow's water content was only 12 percent of average at Phillips a year ago and 25 percent statewide.

"It's a good start," Frank Gehrke, chief of snow surveys for the DWR, told about 30 media representatives after taking the measurement. "We need to keep on this track."

Gehrke's measurement represented a snapshot of just one location, however. Broader electronic measurements show the snowpack throughout the state is somewhat less robust: 114 percent of normal, according to DWR data.

Other indicators suggest the state is making progress against the drought, but water shortages remain. Persistent rain and snow have raised Folsom Lake levels to above normal for early February, but the far larger reservoirs at Oroville and Shasta remain comparatively empty.

An ample Sierra snowpack is crucial to ending the drought, and replenishing reservoirs through the dry spring and summer. Gehrke said the snowpack is approaching levels similar to February 2011, the last healthy winter before the drought started. One nice "Pineapple Express" would put the snowpack over that mark.

"We haven't seen a really good one of those this time," he said. "The snowpack is growing even in that absence."

Later Tuesday, at the state water board hearing, Northern California water officials said they should be given more lenient regulations than other areas of the state because of the recent rain and snow. Some urged the board to let the regulations lapse completely until spring, when a clearer picture will emerge of how much rain has fallen.

Einar Maisch of the Placer County Water Agency said "there's no longer a drought" in his service territory – a comment that drew gasps of disbelief from some board members. Shauna Lorange, of the San Juan Water District in suburban Sacramento, said enforcing conservation is hard when Folsom Lake is so full that water likely will be released soon for flood control purposes.

"Our customers are going to roll their eyes, and we're going to lose trust," Lorange said.

Meanwhile, environmentalists warned the board against relaxing the existing conservation standards. "I would hate to have those efforts lose steam going forward," said Kyle Jones of the Sierra Club California. "We don't know how long this drought is going to last."

The current rules are based on historical per-capita consumption rates and tend to punish hot, dry areas like Sacramento. The new rules make allowances for climate differences and give credits to communities that have invested in "drought-resilient" new water supplies.

In the Sacramento area, where the conservation mandates are among the toughest in the state, most agencies are expected to see targets fall by 3 percentage points. An agency that's had to slash consumption by 36 percent, for instance, would now have to meet a 33 percent savings rate.

Agencies that don't meet their mandates could be fined.

State board officials were wary of relaxing the standards too much. As it is, they're concerned that conservation efforts currently in effect won't meet the 25 percent threshold ordered by Gov. Jerry Brown.

Earlier Tuesday, the board announced that conservation in the state slipped to 18.3 percent in December, the lowest savings rate since mandatory conservation took effect last June. It was the third straight month that the savings rate fell below 25 percent, although the cumulative savings since June totaled 25.5 percent, just above the governor's order.

Cheryn Landau, with the water board's office of research, planning and performance, said she was "cautiously optimistic" the savings rate would remain above 25 percent through the end of February, when the current mandates expire.

Savings rates were considerably higher in the summer, when conservation largely amounted to cutting back on outdoor watering. Officials say it's harder to achieve major year-over-year savings in winter because residents have to reduce their indoor water use.

Sacramento-area residents continued to be among the most diligent in the state at saving water. The area's conservation rate averaged 26 percent in December, according to data compiled by the Sacramento Regional Water Authority. All told, Sacramentans have cut water use by 33 percent since June, the authority said.

Ryan Sabalow: 916-321-1264, @ryansabalow

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# California misses water conservation target

By Scott Smith

The Associated Press

**FRESNO** » Residents of drought-stricken California used 18 percent less water in December and for a third straight month fell short of the 25 percent conservation mandate set by Gov. Jerry Brown, state officials said Tuesday.

However, the State Water Resources Control Board reported at a meeting in Sacramento that California will likely beat its long-term conservation goal.

California has saved a combined 25.5 percent since Brown issued the mandate in June calling for savings from 2013 use rates, the agency said.

Average monthly water use declined from 76 gallons for each person in November to 67 gallons in December, the second lowest rate since water-use reporting began in June 2014, officials reported.

State water managers are also looking ahead to April 1 — when the Sierra Nevada snowpack is historically at its deepest before melting and feeding rivers and streams.

Its depth then will signal whether drought conditions are easing after the state's driest four-year period on record.

"We're at halftime," state water board chair Felicia Marcus said in an interview. "We're not doing too badly, but we certainly haven't won the game yet."

On Tuesday, water content of the snowpack measured 130 percent of its historical average for this time of year.

Under a light snowfall, snowpack survey chief Frank Gehrke plunged a measuring pole into 76 inches of snow near Echo Summit in the Central Sierra region that includes Lake Tahoe.

"It's certainly a very encouraging start to the winter," said Gehrke, chief of the California Cooperative Snow Surveys Program for the Department of Water Resources.

Still, he said, the state needs to see storms each week to ease the drought.

The snowpack provides nearly one-third of California's



RICH PEDRONCELLI — THE ASSOCIATED PRESS

Frank Gehrke, chief of the California Cooperative Snow Surveys Program for the Department of Water Resources, checks a scale to get the weight of the snow pack as he conducts the second manual snow survey of the season at Phillips Station near Echo Summit on Tuesday.

water supply during months when it melts and rushes through rivers and streams to fill reservoirs.

An electronic measurement collected by more than 100 sensors throughout the Sierra has shown the snowpack at 114 percent.

El Nino storms have boosted the snowpack to levels higher than the state has seen in five years, officials have said.

Still, major reservoirs and underground water supplies remain critically low.

Marcus said she anticipates the state water board will extend Brown's emergency conservation order through October. The regulations, which expire this month, have drawn criticism from water districts.

Under the proposed regulations, especially hot and dry inland communities might be able

to get a slight cut in their conservation targets.

Communities with fast population growth, and districts that have developed desalination plants, wastewater-recycling plants or other sources of water might also get a break.

The proposal doesn't go far enough to reward communities that have invested millions of dollars to protect supplies during times of drought, David Bolland, special projects manager at the Association of California Water Agencies, said in a letter to the state water board.

Bolland urged state officials to replace the emergency regulations with long-term water policy.

"Such an approach must fully consider existing and future investments in sustainable and emergency supplies," he said.

*Times Standard  
2/3/2016*

# Official: El Nino Could Signal Easing of California Drought

• BY SCOTT SMITH, ASSOCIATED PRESS

FRESNO, Calif. — Feb 3, 2016, 4:56 PM ET

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• 51 SHARES

In the strongest indication yet that the [California](#) drought could be easing, officials said strict water conservation orders could be dramatically scaled back or even ended if El Nino storms keep pummeling the state into the spring.

The assessment came amid encouraging results from Tuesday's measurement of the [Sierra Nevada](#) snowpack, which provides a third of the state's water during the spring runoff when it feeds rivers and replenishes depleted reservoirs.

The water content of the snowpack now stands at 130 percent of normal for this time of year.

"We are hopeful that we are turning the corner on this drought," State Water Resources Control Board chair Felicia Marcus said in a statement. "The truth is that it's just too soon to tell."

The board exercised caution Tuesday when it extended an emergency conservation order by Gov. [Jerry Brown](#) that requires communities to cut water use by 25 percent in response to the four-year drought.

Come April, when the snowpack is typically at its highest level, officials intend to revisit the conservation plan. By then, they should know the full impact of the heralded El Nino system — a warming of the Pacific Ocean that alters weather worldwide and is associated with stormy California winters.

Brown ordered the cutbacks last year, saying mandatory conservation was imperative because the drought could drag past this year.

The effort slipped in December when residents and businesses used 18 percent less water compared to the same period of 2013. It was the worst showing since Brown set the goal in June.

However, the state is still on track to beat Brown's goal, officials said.

In extending the conservation order, the water board gave a slight break to cities that are particularly hot and dry or quickly growing.

Places that have implemented desalination or developed efficient ways to recycle water also received consideration on their conservation mandate.

Officials said the conservation goal could drop closer to an average of 20 percent statewide after the breaks are implemented.

Those breaks still don't go far enough, said Robert Roscoe, general manager of the Sacramento Suburban Water District.

He said his district invested \$120 million in groundwater storage a decade ago, making Sacramento drought-proof.

"We did precisely what we were supposed to do," Roscoe said. "We anticipated a drought, were proactive and we made a huge investment."

## Sawmill in Arcata to close, affecting 123 workers

*By The Times-Standard*

POSTED: 01/25/16, 4:15 PM PST UPDATED: 0 HRS AGO  
# COMMENTS

From a Sierra Pacific Industries press release:

Sierra Pacific Industries (SPI) today announced it will close its sawmill in Arcata.

“This is a particularly sad day for Sierra Pacific and for my family” said A.A. “Red” Emmerson, Chairman and President Emeritus of SPI. “Our company started in the Arcata area when my father and I leased our first mill there in 1949 near Jacoby Creek.” “We went on to build the Arcata mill on the Samoa Peninsula, which we’ve run steady since 1951” he noted.

About 123 crew members will be affected by the closure. According to SPI, reduced harvests of suitable timber and regulatory burdens are the primary reason for the closure. That, combined with a difficult lumber market have profoundly impacted operations in Arcata.

“A fall-off in the amount of suitable timber for sale in this area, coupled with flat home construction in the U.S., and increased lumber imports from Canada have all played a role in our decision to close the mill” said SPI spokesman Mark Pawlicki. “But, make no mistake, the largest factor was that the type and size of logs that this mill cuts are simply not available in ample supply to continue to run the mill” he added. “When combined, these factors leave us no choice but to close the plant” said Pawlicki.

In an effort to keep the Arcata mill running, SPI has been transporting logs from the interior of California, and has barged logs from British Columbia and Washington. However, those efforts proved to be uneconomical.

Sierra Pacific is a strong, growing company and has job openings at other locations. Crew members are being encouraged to consider opportunities at these locations, and relocation assistance will be offered for each person who is approved to transfer.

Sierra Pacific Industries is a third-generation family-owned forest products company based in Anderson, California employing over 4,500 crew members. The company owns and manages 1.9 million acres of timberland in California and Washington, and is among largest lumber producers in the U.S. Sierra Pacific has 13 other sawmills operating in California and Washington, and has started construction of a new mill in Shelton, WA. The company also has window, renewable power, sales, and lumber remanufacturing facilities in operation in multiple states.

Sierra Pacific is committed to managing its lands in a responsible and sustainable manner to protect the environment while providing quality wood products for consumers.

*Wed 2/3/16*

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## Manila rates may go up

**Jack Durham**

**MAD RIVER UNION**

MANILA – The impending closure of the Sierra Pacific Industries mill may result in a significant increase in sewer and water rates for the town of Manila.

The sawmill, located on the north side of the sandy outpost near Mad River Slough, is the Manila Community Services District's largest customer, accounting for about 20 percent of the district's water consumption.

District Manager Chris Drop said the mill pays about \$17,500 in water \$13,500 in sewer bills a year, for a total of \$31,000.

The district may save some money from not having to pump and treat the mill's wastewater, but the amount would be small.

If district customers have to make up the difference for the lost revenue, their combined sewer bills could go up by \$11 to \$12 a month. Combined sewer and water bills now average about \$70 per customer per month.

It's uncertain at this point exactly how the closure will affect the district, as the future of the mill site is still undecided.

"We're considering what we need to do," Drop said.

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## **EPIC: County's cannabis ordinance an important first step**

*By Natalynne DeLapp*

Wednesday, February 3, 2016

A long time in the making, and sorely needed: Humboldt County now has the first land use ordinance in the state of California to regulate commercial cannabis agriculture. This is an important first step to begin rectifying the environmental destruction associated with unregulated cannabis cultivation, and providing a legitimate framework for legal economic activity that can benefit farmers and the general public. Only now can the divide between cultivators, regulators, and communities start to close, and mutual distrust begin to fade, as we work together to shape the industry's future with our social and environmental values.

This is a monumental step taken at the behest of cannabis farmers, conservationists, government officials, members of the public and many others, who for the last five years have openly dialogued, deliberated, and educated the community about the problems of unregulated cannabis, while looking for solutions. Unfortunately, few government officials outside of Humboldt County were willing or able to help find solutions to statewide problems associated with unregulated cannabis, such as water withdrawals, herbicide and pesticide use, threats to consumer and public safety, law enforcement and beyond.

Thanks to the efforts of a few brave cultivators, and Assemblyman Jim Wood and state Sen. Mike McGuire, California adopted the California Medical Marijuana Regulation and Safety Act in 2015, which at last provides a comprehensive statewide framework to regulate commercial cannabis. In addition, last summer the North Coast Regional Water Quality Control Board issued its groundbreaking water quality order, the first regulation by a California state agency designed to address environmental impacts from cannabis cultivation.

Finally, the components for effective regulation had to come together — Humboldt County could develop its own local ordinance to regulate land use, and what was accomplished was no small feat. The community came together to engage in the public process; and the Humboldt County Supervisors and planning staff accomplished the difficult task of balancing the needs of the environment, the industry, and the public. Having witnessed the process, I can say it is an example of the government and its citizens successfully working together to create a set of rules that most everyone can support.

The Humboldt County Commercial Medical Marijuana Land Use Ordinance establishes rules and performance standards designed to mitigate the harms associated with the unregulated existing industry. To be fully permitted as a legal commercial cannabis farmer, all 20 requirements must be satisfied, which include: enrollment in the Water Board's water quality order; compliance with the streambed alteration program from the Department of Fish and Wildlife; water storage requirements to prevent dry season pumping; and strict rules for water trucking. Performance standards will begin to address noise and light pollution associated with generator use and mixed-light grows; streamside set-backs were incorporated to further protect water quality; and processing plans and allowance for off-site centralized processing centers were developed to increase safety for workers while reducing negative impacts associated with

trim scenes. The Retirement, Relocation and Remediation Program incentivizes relocation of poorly situated grows to flat agricultural lands; and indoor cultivation is limited to on-the-grid power in existing structures. No new grows are allowed on forest resource lands i.e. Timberland Production Zones, Forestry Recreation or Unclassified zones; and a sunset clause is included that limits enrollment in the county's permitting plan to applicants who apply by Dec. 31, 2016. In addition, the supervisors have publicly committed to completing a full Environmental Impact Report before expanding the breadth of the ordinance.

The county land use ordinance is an important first step, but it's only the beginning. The county needs to begin immediately drafting a cannabis excise tax to fund inspection and enforcement, and provide other public services — so that it can be included on the June 2016 ballot for voter approval.

Cannabis thrived without regulation for decades. The time has now come for it to thrive with regulation. We need to help bring farmers into compliance. To assist with this task, the Environmental Protection Information Center and the Mad River Alliance are partnering with Humboldt Green, California Growers Association and the Humboldt Bay Municipal Water District to create a 2016 Compliance Manual. We are hosting a series of five workshops across the county with presentations by the North Coast Regional Water Quality Control Board, Department of Fish and Wildlife, and experts on state and county laws.

Workshops are scheduled for: Feb. 28, Mad River Grange; March 13, Mateel Community Center; March 19, Willow Creek Country Club; April 3, Mattole Grange; and April 17, "Cannafest" at Redwood Acres Fairgrounds.

*Natalynne DeLapp is the executive director for the Environmental Protection Information Center. EPIC advocates for the protection and restoration of Northwest California's forests, [www.WildCalifornia.org](http://www.WildCalifornia.org).*

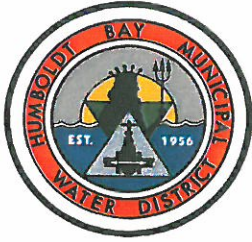
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URL: <http://www.times-standard.com/opinion/20160203/epic-countys-cannabis-ordinance-an-important-first-step>

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# Correspondence





## HUMBOLDT BAY MUNICIPAL WATER DISTRICT

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Dear Municipal Customers:

The purpose of this letter is to transmit information about your domestic water use per the requirements of our Ordinance 16 contracts. The following documents are attached:

- Domestic Water Use Report for CY2015 – Presents total water use and the corresponding Average Daily Water Use for each municipality.
- Moving Five-Year Average Water Use Report for CY2015 – Presents total water use and the corresponding Moving Five-Year Average Water Use for each municipality. It will be used to allocate HBMWD's Drinking Water Treatment Facility costs for fiscal year 2016-17.
- Peak Rate Allocation by Municipality for CY2015 – Presents maximum daily water use by month for each municipality. The contract peak rates will continue to be used to allocate HBMWD's Base Water Facility costs for fiscal year 2016-17. The attached sheet shows that all agencies were within their Peak Rate Allocation (PRA) for CY2015. Pursuant to Ordinance 16, the PRA for each municipality is reviewed every 5 years. The next 5 year review will include peak water use data from January 2014 thru December 2018, which will become effective July 1, 2019.

These reports will be on the agenda for discussion at the next Muni meeting scheduled for February 17, 2016.

Sincerely,

Paul Helliiker  
General Manager

Month	Domestic Water Use for CY2015 (millions of gallons)										Total
	Arcata	Blue Lake	Eureka	Fieldbrook	HBMWD	HCSD	Manila	McK CSD			
Jan-15	43.703	14.703	106.970	3.353	17.899	22.764	3.093	32.908			245.393
Feb-15	47.025	13.202	97.940	3.014	18.811	18.983	2.981	30.118			232.074
Mar-15	51.491	15.426	113.310	4.167	15.441	24.373	3.474	36.039			263.721
Apr-15	50.342	14.112	109.690	4.134	15.555	22.309	3.207	34.093			253.442
May-15	52.776	12.087	117.885	5.266	12.927	23.483	3.376	37.013			264.813
Jun-15	61.025	8.302	129.280	6.861	17.756	32.474	3.904	46.120			305.722
Jul-15	60.284	8.453	136.690	6.524	19.338	33.713	2.724	46.586			314.312
Aug-15	62.500	8.166	136.180	6.282	15.973	33.008	3.379	45.626			311.114
Sep-15	61.280	7.966	120.600	5.348	19.336	29.691	3.463	41.301			288.985
Oct-15	56.579	7.337	112.060	4.388	14.419	27.546	3.196	37.552			263.077
Nov-15	50.643	6.982	106.710	3.634	18.742	27.037	2.803	34.223			250.774
Dec-15	49.936	6.843	105.680	3.858	15.606	26.027	3.000	34.300			245.250
Total Annual Use	647.584	123.579	1392.995	56.829	201.803	321.408	38.600	455.879			3238.677
Monthly Average Use	53.965	10.298	116.083	4.736	16.817	26.784	3.217	37.990			269.890
<b>Avg Daily Water Use (mgd)</b>	1.769	0.338	3.806	0.155	0.542	0.878	0.105	1.246			8.840

**Notes:**

Manila CSD meter was out for calibration/repair August. Water usage for that period is calculated based on the prior year water use.

Eureka meter was out for calibration/repair May. Water usage for that period is calculated based on the prior year water use.

Average daily water use based on 366 days/year (HBMWD based on 372 days).

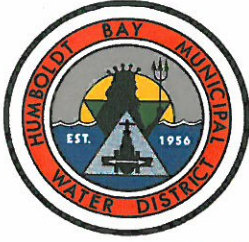
**Humboldt Bay Municipal Water District  
Ordinance 16 - Moving Five-Year Average Water Use - CY 2015**

	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	Moving 5-Yr Avg Daily Use	
						365	367	367	357	366	MGD	%
# of Days												
Eureka	1560.70	1405.97	1479.19	1440.36	1393.00	4.28	3.83	4.03	4.03	3.81	4.00	46.16%
Arcata	636.95	600.50	615.38	620.61	647.58	1.75	1.64	1.68	1.74	1.77	1.71	19.79%
Blue Lake	89.60	91.12	80.70	72.70	123.58	0.25	0.25	0.22	0.20	0.34	0.25	2.90%
HCS D	401.92	384.86	382.31	373.62	321.41	1.10	1.05	1.04	1.05	0.88	1.02	11.82%
McK CSD	556.74	517.72	530.94	479.77	455.88	1.53	1.41	1.45	1.34	1.25	1.39	16.11%
FCSD	57.06	77.32	69.57	56.61	56.83	0.16	0.21	0.19	0.16	0.16	0.17	2.01%
Manila CSD	36.81	34.06	40.42	41.18	38.60	0.10	0.09	0.11	0.12	0.11	0.10	1.21%
Total Muni	3339.79	3111.55	3198.51	3084.84	3036.87	9.15	8.48	8.72	8.64	8.30	8.66	100.00%
HB Retail	228.56	194.06	180.60	190.47	201.80	0.63	0.52	0.49	0.52	0.54	0.54	
Total	3568.35	3305.61	3379.11	3275.31	3238.68	9.78	9.00	9.20	9.17	8.84	9.20	
<b>Notes for 2011 water use:</b>												
HCSD meter out of service in Jan.												
Eureka meter out of service Mar - Apr & Sep - Oct												
<b>Notes for 2012 water use:</b>												
Arcata meter out of service Sept - Dec.												
Blue Lake meter out of service April - July.												
HCSD meter out of service Dec.												
Average daily water use based on 367 days/year (HBMWD daily water use based on 372 days).												
<b>Notes for 2013 water use:</b>												
Arcata meter out of service Jan.												
Blue Lake meter out of service July - Oct.												
Fieldbrook usage based on Blue Lake meter usage (see note re: Blue Lake meter)												
HCSD meter out of service Jan - Mar												
Average daily water use based on 367 days/year (HBMWD daily use based on 358 days)												
<b>Notes for 2014 water use:</b>												
Manila CSD meter out of service April - July												
Average daily water use based on 357 days/year (HBMWD daily use based on 363 days)												
<b>Notes for 2015 water use:</b>												
Manila CSD meter out of service August												
Eureka meter out of service May												
Average daily water use based on 366 days/year (HBMWD based on 372 days)												

Month	Eureka	Arcata	McKCSD	Blue Lake	FGCSD	HCSD	Manila CSD			Grand Total
							Manila Town	Sierra Pacific (4)	Total MCSD	
Jan-14	4.130	1.923	1.640	0.433	0.156	0.880	0.097	0.019	0.116	
Feb-14	3.845	2.160	1.645	0.462	0.177	0.867	0.081	0.018	0.099	
Mar-14	4.554	1.720	1.398	0.443	0.155	1.466	0.083	0.016	0.099	
Apr-14	4.710	1.681	1.466	0.459	0.183	1.149	0.110 (2)	0.019	0.129	
May-14	6.117	2.101	1.969	0.502	0.254	1.353	(3)	0.013	0.013	
Jun-14	6.182	2.335	2.325	0.533	0.314	1.879	(3)	0.019	0.019	
Jul-14	5.994	2.150	2.036	0.549	0.327	1.642	0.131 (2)	0.021	0.152	
Aug-14	5.733	2.223	2.000	0.557	0.282	1.536	0.127	0.022	0.149	
Sep-14	5.848	2.303	1.941	0.521	0.259	1.529	0.135	0.022	0.157	
Oct-14	6.240	1.864	1.800	0.447	0.196	0.948	0.113	0.022	0.135	
Nov-14	4.545	1.836	1.476	0.525	0.170	0.858	0.113	0.021	0.134	
Dec-14	4.235	1.782	1.431	0.544	0.175	0.898	0.086	0.028	0.114	
Peak-2014	6.240	2.335	2.325	0.557	0.327	1.879	0.135	0.028	0.157	
Jan-15	4.030	1.718	1.455	0.578	0.158	0.837	0.094	0.019	0.113	
Feb-15	3.771	1.872	1.501	0.535	0.147	0.826	0.090	0.023	0.113	
Mar-15	3.752	1.780	1.459	0.517	0.172	0.848	0.820	0.022	0.842	
Apr-15	4.444	1.830	1.645	0.543	0.207	0.838	0.096 (2)	0.026	0.122	
May-15	5.027 (2)	2.040	1.522	0.544	0.257	0.968	0.131	0.024	0.155	
Jun-15	5.547	2.246	1.977	0.299	0.333	1.205	0.109	0.023	0.132	
Jul-15	5.915	2.199	1.826	0.310	0.347	1.288	0.110 (2)	0.023	0.133	
Aug-15	6.321	2.222	1.993	0.287	0.302	1.171	0.108 (2)	0.022	0.130	
Sep-15	4.911	2.286	2.017	0.444	0.296	1.222	0.110	0.023	0.133	
Oct-15	4.929	2.108	1.557	0.311	0.233	1.032	0.100	0.021	0.121	
Nov-15	3.647	1.784	1.602	0.243	0.170	0.927	0.091	0.017	0.108	
Dec-15	3.646	2.098	1.561	0.265	0.185	0.903	0.110	0.018	0.128	
Peak-2015	6.321	2.286	2.017	0.578	0.347	1.288	0.820	0.026	0.842	
Jan-16										
Feb-16										
Mar-16										
Apr-16										
May-16										
Jun-16										
Jul-16										
Aug-16										
Sep-16										
Oct-16										
Nov-16										
Dec-16										
Peak-2016										
Jan-17										
Feb-17										
Mar-17										
Apr-17										
May-17										
Jun-17										
Jul-17										
Aug-17										
Sep-17										
Oct-17										
Nov-17										
Dec-17										
Peak-2017										
Jan-18										
Feb-18										
Mar-18										
Apr-18										
May-18										
Jun-18										
Jul-18										
Aug-18										
Sep-18										
Oct-18										
Nov-18										
Dec-18										
Peak-2018										
SUMMARY										
Max MGD										
Avg MGD										
% of Avg										
Contract Peak Rate Allocations	7.0	3.0	2.6	0.4	0.43	2.9			0.19	

Notes:

- Ordinance 16 calls for Peak Rate Allocation (PRA) calculations to be based on calendar years.  
 Peak Rate Allocation is the maximum number of gallons per calendar day of water to which a customer is entitled by contract.
- Due to a meter malfunction or communication problems, daily data was not available for each day this month.
- Due to a meter malfunction or communication problems, daily data was not available at all this month.
- Maximum daily peaks are not available for all of Manila CSD's water usage.  
 Sierra Pacific is part of MCSD; however their use is not measured on the mainline meter which serves the Town.  
 The numbers reflected in the Table for Sierra Pacific represent the Average MGD.
- FGCSD and Blue Lake meter's are unique in that Blue Lake's usage is deducted from total usage recorded on FGCSD meter because the Blue Lake meter is downstream from the FGCSD meter. When Blue Lake meter is out for calibration/repair or SCADA signal is out, FGCSD's high daily usage will be disregarded for that period and vice versa.



## HUMBOLDT BAY MUNICIPAL WATER DISTRICT

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January 27, 2016

Ms. Felicia Marcus  
 Chairwoman  
 State Water Resources Control Board  
 1001 I Street  
 Sacramento, CA 95814

Dear Chairwoman Marcus:

The Humboldt Bay Municipal Water District (HBMWD) and its water supply partners in the Humboldt Bay area would like to offer the following comments on the Proposed Drought Emergency Conservation Regulations, dated January 15, 2016.

We appreciate the opportunities that we and other water agencies have had to provide input to staff and Board members on these regulations, including this current comment period, the December 7, 2015 workshop, the comment period for the proposed regulatory framework and the various direct meetings that have taken place. We greatly appreciate the changes that are proposed to the regulations adopted in 2015, to allow for reductions in conservation requirements. The proposed changes reflect a recognition of the fact that climate conditions and irrigation needs vary in California, that population growth and concomitant increases in water demand continue to occur, and that water agencies have made investments in drought-resilient water supplies. Given the uncertainty of the final amounts of precipitation, snowpack and runoff in the Sierra Nevada during water year 2015-16 and the current lower-than-average storage levels in reservoirs in the Sacramento and San Joaquin Valleys, we also appreciate the reference in the fact sheet for these proposed regulations to making adjustments to the regulations to reflect hydrologic conditions in April.

## Regulations Should Apply Only Where Drought Persists

Governor Brown's Executive Order B-36-15 specified that if drought conditions persist through January, the State Water Resources Control Board shall continue a regulatory program to promote urban water conservation. Drought conditions do not currently exist for HBMWD and its municipal water supply partners (the Cities of Arcata, Blue Lake and Eureka and the following Community Services Districts: Fieldbrook-Glendale, Humboldt, Manila and McKinleyville). Ruth Reservoir, the source of supply for HBMWD and its partners, filled on December 21 and has been overflowing since. Ruth Reservoir also filled and overflowed four times in water year 2014-15. Precipitation in the Mad River watershed is currently over 150% of average. As the attached hydrographs show, the Mad River flooded on January 17, and is projected to approach monitor stage on January 29.

Because of the lack of drought conditions in the Mad River, HBMWD and its partners anticipate being able to make full beneficial use of their municipal water supplies, while continuing to meet all environmental protection requirements and thus also avoiding the waste and unreasonable use of any water resources.

Reference is made in the "Evidence of Emergency" section of the Emergency Regulations Digest to the U.S. Drought Monitor data from January 12, 2016. On that date, the Drought Monitor showed the northwest region of California (in which the Mad River watershed is located) to be a mix of abnormally dry to moderate drought conditions. However, the Drought Monitor also displays the warning that it displays broad scale conditions, and that local conditions may vary. As noted, conditions on the Mad River vary from this drought designation, and indeed, all of Humboldt County does, given the cancellation of Humboldt County's drought emergency declaration that is planned to be adopted by the Board of Supervisors on February 2, 2016.

Drought conditions also no longer exist for municipal water supplies on the Smith River in Del Norte County nor for those on the Eel River in Humboldt County. Both of these rivers have flooded during the past two months. Additionally, drought conditions no longer exist on the Russian River in Sonoma and Mendocino Counties, and on Walker Creek, Nicasio Creek, Lagunitas Creek and Novato Creek in Marin County. Reservoirs supplied by these rivers and creeks are nearly full, and precipitation is running above average.

***We request that the emergency conservation regulations be modified to require reductions in potable water production from only those water supplies in which drought conditions persist.***

Thank you again for the opportunity to provide these comments. We look forward to working with your staff, the rest of the Board and you to address any drought conditions in California in 2016.

Sincerely,

*Paul Helliker*

Paul Helliker, General Manager  
Humboldt Bay Municipal Water District



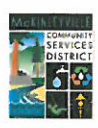
*David Hull*

David Hull, General Manager  
Humboldt Community Services District



*Greg Orsini*

Greg Orsini, General Manager  
McKinleyville Community Services District



*Mark J. Andre*

Mark Andre, Director of Environmental Services  
City of Arcata



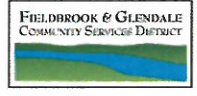
*Brian Gerving*

Brian Gerving, Public Works Director  
City of Eureka



*Richard Hanger*

Richard Hanger, General Manager  
Fieldbrook Glendale Community Services District



*Christopher Drop*

Christopher Drop, General Manager  
Manila Community Services District



### MAD RIVER - ARCATA (ARCC1)

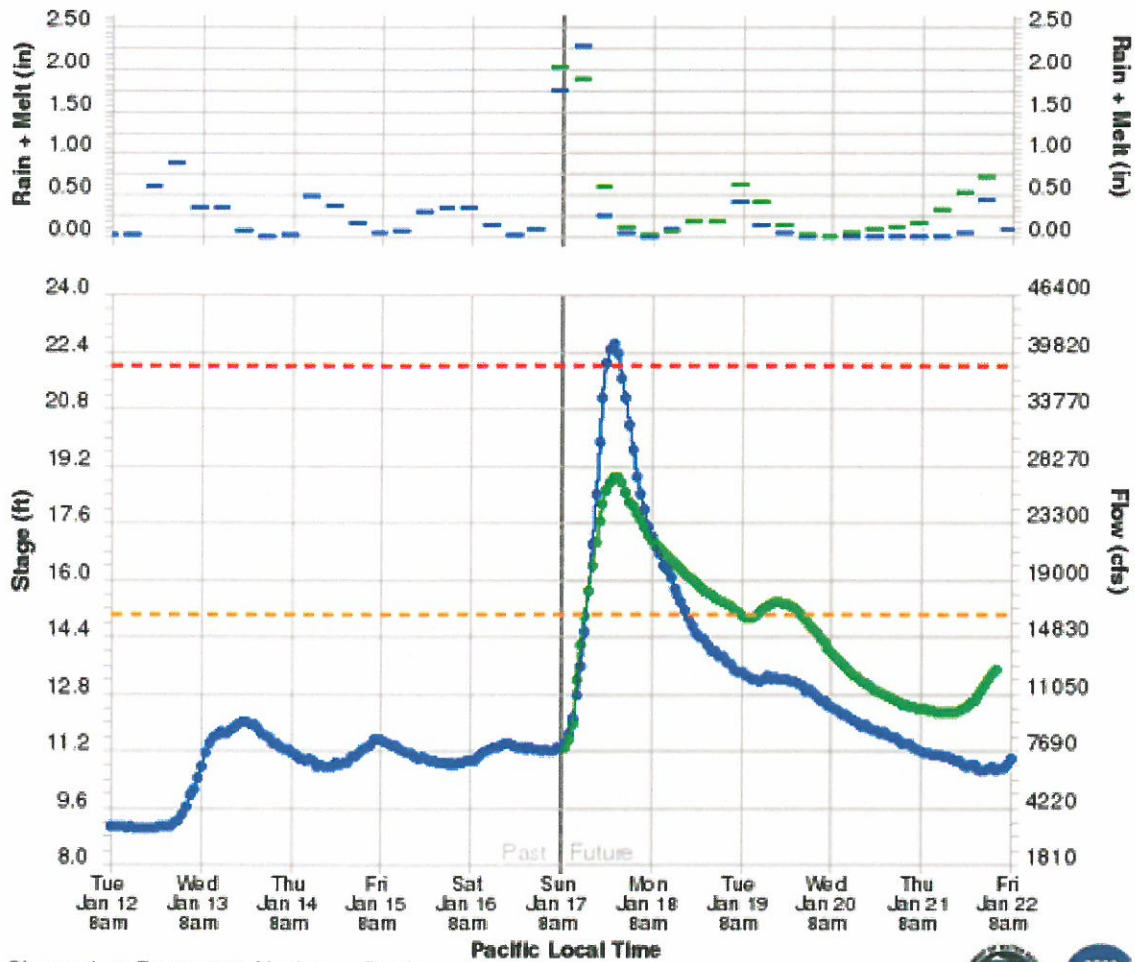
Latitude: 40.91° N Longitude: 124.06° W  
 Location: Humboldt County in California

Elevation: 13 Feet  
 River Group: North Coast

Forecast — Observed —

Previous Forecast	Next Forecast
Saturday 01/16/2016 18-00 UTC	Sunday 01/17/2016 18-00 UTC
Selected Date: Sunday 01/17/2016 12-18 UTC	

ARCC1 - MAD - ARCATA, NR (MS: 15.0 / FS: 22.0)  
 Forecast Issuance: January 17, 2016 at 08:18 AM PST



Observed ● Forecast ● Monitor — Flood —  
 FCTime: 1618Z ID: ARCC1  
 Created: 01/23/2016 at 1:00 AM PST (Source = C)

California Department of Water Resources  
 NOAA / NWS / California Nevada River Forecast Center





### MAD RIVER - ARCATA (ARCC1)

Latitude: 40.91° N Longitude: 124.06° W  
 Location: Humboldt County in California

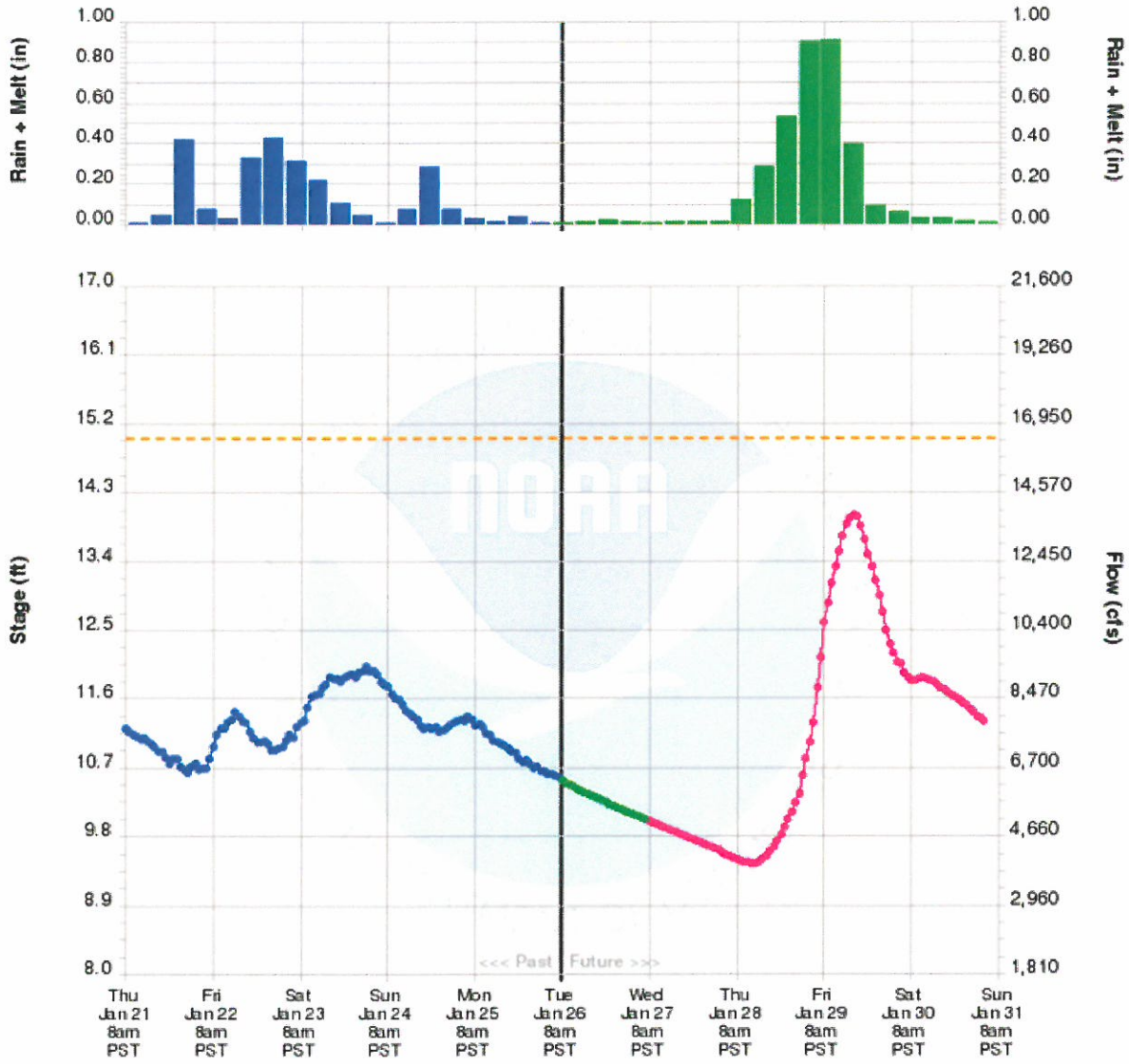
Elevation: 13 Feet  
 River Group: North Coast

Issuance Time: Jan 26 2016 at 8:02 AM PST

Next Issuance: Jan 26 2016 at 3:00 PM PST

Monitor Stage: 15.0 Feet

Flood Stage: 22.0 Feet



Observed ● Forecast ● Guidance ● Monitor -  
 Created: 01/26/2016 at 8:03 AM PST (ARCC1 Forecast Run Time = 1558Z) California Department of Water Resources  
 NOAA / NWS / California Nevada River Forecast Center  
 Observed Data Credit

*From ACWA Regulatory Advisory*

Jan. 15, 2016

## **State Water Board Draft Emergency Conservation Regulation for 2016**

### ***Comments Due at noon Thursday, Jan. 28***

The State Water Resources Control Board today released [a draft emergency conservation regulation](#) that would extend the requirements of the existing regulation through October and offer "modest adjustments" to reflect climate, growth and significant investments in new, locally developed drought-resilient potable water supplies.

Public comment on the draft regulation is due by noon Thursday, Jan. 28. The State Water Board is expected to consider the regulation at its meeting Feb. 2.

As proposed, the draft regulation would allow urban water suppliers to apply for an adjustment of no more than 8% to their individual state-imposed conservation target. The climate adjustment, where applicable, could reduce a supplier's target by up to 4% for suppliers located in warmer regions of the state.

The growth adjustment, as proposed, would provide a mechanism to account for water-efficient growth since 2013. To qualify for the adjustment, suppliers would have to provide specific data to the State Water Board by March 15.

The new local drought-resilient supply credit, as proposed, would allow urban water suppliers that obtain at least 4% of their total potable water production from a qualifying new local, drought-resilient water supply to apply for a 4% to 8% reduction to their target. The credit would be equal to a supplier's actual percentage of total potable water production that comes from a qualifying source up to a maximum of 8%. The source of supply must have been developed since 2013, and the use of that supply must "not reduce the water available to another legal user of water or the environment." In order to qualify for the credit, water suppliers would have to submit required certification to the State Water Board by March 15.

The draft regulation also clarifies the provision for receiving an exemption for commercial agriculture.

Total monthly water production and specific reporting on residential use and enforcement would remain in effect.

The draft regulation and a fact sheet are available at [http://www.waterboards.ca.gov/water\\_issues/programs/conservation\\_portal/emergency\\_regulation.shtml](http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/emergency_regulation.shtml).

### **ACWA's Position**

ACWA is reviewing the draft regulation, which builds on a draft framework released by the State Water Board staff on Dec. 21.

In general, ACWA has been calling on the State Water Board to allow locally developed drought-resilient water supplies to play a much more significant role in the state's drought response in 2016.

In comments submitted Jan. 6, ACWA said the framework failed to recognize the importance of local water supply investments and could compel Californians to sustain extraordinary conservation efforts that are disproportionate to the actual need or immediate water supply conditions on the ground.

ACWA believes the current approach – and heavy focus on mandatory conservation – is denying communities the benefit of significant investment in local water projects and could provide a disincentive for water suppliers to make additional investments in the future.

ACWA's Jan. 6 comment letter is available [here](#).

A Jan. 12 op-ed in The Sacramento Bee by ACWA Executive Director Timothy Quinn is available [here](#).

### **Background**

In May 2015, the State Water Board adopted an emergency regulation for implementing the required 25% reduction in urban water use outlined in the April 1 executive order issued by Gov. Jerry Brown. The regulation requires urban water suppliers to meet mandatory conservation targets ranging from 4% to 36%, as compared to 2013 water use, through February 2016.

On Nov. 13, 2015, Gov. Jerry Brown issued an executive order directing the State Water Board to extend the emergency conservation regulation through October 2016 if the drought persists through January 2016. As a result, the State Water Board on Dec. 7 held a public workshop to gather input on what modifications, if any, should be made if the existing regulation needs to be extended.

The regulatory framework released Dec. 21 by the State Water Board staff outlined proposed some modifications to the existing regulation but called for a credits and adjustments to be capped at no more than 4%.

### **Next Steps and Questions**

ACWA will review the draft regulation and submit comments to the State Water Board by the Jan. 28 deadline.

ACWA appreciates that State Water Board staff has recognized the need for adjustments and proposed some key modifications. However, ACWA and water agencies will continue to advocate that the State Water Board make further adjustments to recognize the importance of water supply tools and address concerns raised by ACWA and water agencies throughout the state.

ACWA member agencies with questions may contact ACWA Special Projects Manager Dave Bolland at (916) 441-4545 or [daveb@acwa.com](mailto:daveb@acwa.com).

Feb. 3, 2016

## ACWA Regulatory Advisory

### **State Water Board Adopts Emergency Conservation Regulation for 2016**

The State Water Resources Control Board adopted an emergency conservation regulation late Tuesday that extends the requirements of the existing regulation through October with a few limited adjustments to reflect climate, growth, and development of some drought-resilient potable water supplies since 2013.

The regulation will now be submitted to the Office of Administrative Law, which will review and approve or deny the regulation. If approved by the Office of Administrative Law, the regulation will take effect immediately and remain in effect for 270 days from the approval date.

Materials related to the regulation are available [here](#).

State Water Board members adopted the regulation after hearing several hours of testimony from local water agency representatives and others. Prior to the public comment, board staff presented amendments to the regulation and the accompanying resolution made since its release on Jan. 15. After the testimony, the board directed staff to make additional changes in a few areas to clarify some issues and reflect the board's intent to revisit the regulation by May 1 to address water supply conditions.

The revised language also directs staff to work with the Department of Water Resources to develop a "proposed framework for enhanced urban water conservation, efficiency and resilience." Staff is directed to report back to the board on "options for transitioning to a more resilience-based approach to dealing with drought by May 1 after continuing conversations with stakeholders and the Department of Water Resources."

Over the past several months, ACWA and numerous member agencies have called on the State Water Board to allow locally developed drought-resilient water supplies to play a much more significant role in the state's drought response in 2016.

In formal comments submitted Jan. 28, ACWA requested several changes to the draft regulation issued Jan. 15 to make the proposed adjustments more meaningful in practice and better recognize the importance of local water supply investments. ACWA's Jan. 28 comment letter is available [here](#).

In oral testimony Feb. 2, ACWA Executive Director Timothy Quinn thanked the board for making modest adjustments but reiterated the need for both water supply tools and demand reduction tools to be used as the drought continues in 2016.

#### **Final Regulation Includes Some Adjustments**

The final regulation extends current mandatory reductions in urban water use through October and continues the mandatory conservation framework that took effect in June. It includes modest adjustments that likely would not have been made without extensive advocacy by ACWA and its member agencies.

These adjustments are expected to help some local water agencies as they continue their conservation efforts in 2016.

- **Climate adjustment:** The final regulation includes a climate adjustment that could reduce a supplier's conservation standard by up to 4% for suppliers located in warmer regions of the state. Some State Water Board members indicated willingness to consider greater adjustments in April. Some additional adjustments were made to broaden the method used to calculate climate data, as proposed by water agencies.
- **Growth adjustment:** The final regulation provides a mechanism to account for water-efficient growth since 2013. To qualify for the adjustment, suppliers would have to provide specific data to the State Water Board by March 15. The method for calculating the adjustment was simplified by the latest changes.
- **Drought-resilient supplies credit:** The final regulation allows local water agencies to apply for an adjustment of no more than 8% to their individual state-imposed conservation standard if they receive at least 1% of their total potable water production from a qualifying local drought-resilient project developed since January 2013. In order to qualify for the credit, water suppliers would have to submit required certification to the State Water Board by March 15. The definition was broadened in the latest round of changes to include agencies with "financial interest" in qualifying projects.

Monthly water production and specific reporting on residential use and enforcement would remain in effect.

The resolution accompanying the regulation was amended to include language adding "regional conditions" to the list of factors the State Water Board will consider to rescind or further amend the emergency regulation in April.

Another amendment added language describing the board's intent to focus on a "resilience-based approach to dealing with the future" that includes water use efficiency, enhanced water conservation and "development of new sustainable supplies, such as recycling, stormwater capture and reuse, local storage to capture water in water years for use in dry years, and other actions."

State Water Board staff indicated the adjustments would put the state on track to reduce water use in 2016 by more than 20%, compared to 2013 levels.

Cumulative water savings under the original emergency regulation totaled just over 25% through December, according to data released Feb. 2.

### **Next Steps and Questions**

ACWA appreciates that State Water Board staff recognized the need for some adjustments and included some modifications in the final regulation. However, ACWA and water agencies will continue to advocate that the State Water Board make adjustments in April to address expected above-normal precipitation either by reducing water suppliers' conservation standards or by rescinding the emergency regulation.

ACWA members with questions may contact ACWA Special Projects Manager Dave Bolland at (916) 441-4545 or [daveb@acwa.com](mailto:daveb@acwa.com).

# Continuing Business



## HUMBOLDT BAY MUNICIPAL WATER DISTRICT

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ALDARON LAIRD, VICE-PRESIDENT  
J. BRUCE RUPP, SECRETARY-TREASURER  
KAITLIN SOPOCI-BELKNAP, DIRECTOR  
SHERI WOO, DIRECTOR

### GENERAL MANAGER

PAUL HELLIKER

February 2, 2016

Judi Hedgpeth  
Elections Division  
County of Humboldt  
3033 H Street  
Eureka, CA 95501

Dear Ms. Hedgpeth,

The purpose of this letter is to inform you that effective March 9, 2016 the Humboldt Bay Municipal Water District will have a vacancy for its Division 1 Director due to Director Sopoci-Belknap relocating out of the area.

The Board decided to fill the vacancy via an appointment process. Attached is the Notice of Vacancy which was issued to various public venues, the Times-Standard and our website. We understand the person appointed to fill the Division 1 vacancy will serve until the next general district election in November 2016. If this is not correct, please let me know at your earliest convenience. We will notify you once the vacancy is filled.

Sincerely,

A handwritten signature in cursive script that reads "Sherrie Sobol".

Sherrie Sobol  
Executive Assistant/Board Secretary



NOTICE OF VACANCY  
BOARD OF DIRECTORS – DIVISION 1  
HUMBOLDT BAY MUNICIPAL WATER DISTRICT  
828 7<sup>TH</sup> STREET  
EUREKA, CALIFORNIA 95501

The Humboldt Bay Municipal Water District has a vacancy, effective March 10, 2016, for its Division 1 Director. The term expires December 4, 2016, with the election for this position during November 2016. The person appointed to fill this vacancy would serve through December 3, 2016.

Anyone interested in being considered to fill the vacancy must reside within the boundaries of Division 1, which is comprised of a portion of Eureka and the Samoa Peninsula area. A map and legal description are available for inspection at the District's Eureka office. Contact the County's Election Division (445-7481) to confirm residency within HBMWD's Division 1.

If you are interested in applying for this position, please submit a letter of interest and resume to the District no later than the close of business (5 p.m.) on February 5, 2016. You may mail the information to: PO Box 95, Eureka 95502-0095, deliver it directly to 828 7<sup>th</sup> Street, Eureka, or email to: [office@hbmwd.com](mailto:office@hbmwd.com).

The Board will determine which candidates to interview for the position. If selected as a candidate, you will be notified.

An overview of the District and summary of Director responsibilities are available at the District's office or its website ([www.hbmwd.com](http://www.hbmwd.com)). For any additional information about the Director position, call 443-5018.

Paul Helliker, General Manager

Posted January 19, 2016

PLEASE KEEP POSTED UNTIL FEBRUARY 5, 2016



**The Times-Standard**

PO Box 3580  
Eureka, CA 95502  
707-441-0571  
legals@times-standard.com

2096953

HUMBOLDT BAY MUNICIPAL WATER DISTRICT -  
LEGAL  
PO BOX 95  
EUREKA, CA 95502

**PROOF OF PUBLICATION  
(2015.5 C.C.P.)**

**STATE OF CALIFORNIA  
County of Humboldt**

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-mentioned matter. I am the principal clerk of the printer of THE TIMES-STANDARD, a newspaper of general circulation, printed and published daily in the City of Eureka, County of Humboldt, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Humboldt, State of California, under the date of June 15, 1967, Consolidated Case Numbers 27009 and 27010; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit,

01/24/2016

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

Dated at Eureka, California,  
This 24th day of January, 2016



Legal No. **0005656478**



**NOTICE OF VACANCY  
BOARD OF DIRECTORS – DIVISION 1  
HUMBOLDT BAY MUNICIPAL WATER DISTRICT  
828 7<sup>TH</sup> STREET  
EUREKA, CALIFORNIA 95501**

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Paul Helliker, General Manager

Posted January 19, 2016

PLEASE KEEP POSTED UNTIL FEBRUARY 5, 2016

**H.B.M.W.D. JAN 26 2016**

**HUMBOLDT BAY MUNICIPAL WATER DISTRICT**

To: Board of Directors

From: Paul Helliker

Date: February 11, 2016

Subject: Cannabis Activities

.....

On the state legislation front, the deadline in the legislation of March 1, 2016 for cities and counties to adopt their own rules or face state pre-emption has now been modified, with the Governor's signature on AB 21. This bill immediately rescinds the deadline, and cities and counties now have more time to adopt their own rules governing cannabis operations.

Humboldt County adopted its own ordinance on January 26, setting up a program to regulate land use associated with cannabis production and processing.

The Regional Water Quality Control Board has proceeded to develop a compliance education program consisting of enrollment clinics, to assist cannabis growers with meeting the Regional Board's order that was adopted last year on site management requirements for cannabis growing operations. This order requires that growers be enrolled by February 16, 2016, with penalties for failing to do so and for failing to meet the specifications of the order. The Board has held clinics in Garberville on January 26, in Petrolia on January 27, in Arcata on February 1, and on February 3 in Willow Creek.

Other compliance workshops are being organized by the Mad River Alliance and EPIC, and will consist of presentations by the Regional Board, CDFW, CalFIRE and industry specialists, all of whom will present information about regulatory requirements, compliance mechanisms, best management practices and more. HBMWD is joining with other organizations to provide financial assistance for preparing the informational materials (workbooks), as well as the meeting logistics (room rentals, etc.) Our contribution is \$5,000.

The compliance workshops are scheduled as follows:

Mad River Grange (Bue Lake)	February 28
Mateel Community Center	March 13
Willow Creek	March 19
Mattole	April 3
Eureka (Redwood Acres)	April 17

**HUMBOLDT BAY MUNICIPAL WATER DISTRICT**

To: Board of Directors  
From: Paul Helliker  
Date: February 11, 2016  
Subject: Water Resource Planning (WRP) – Status Report

.....

The purpose of this memo is to summarize recent activities and introduce next steps for discussion.

**1) Top-Tier Water Use Options****a) Local Sales**

I have nothing new to report with respect to industrial sales on the peninsula.

We are setting up a planning meeting on March 23 with our partners between Rio Dell and Trinidad to organize a project proposal for State revolving Loan funds to conduct the next level of planning and design for expansion of the transmission system northwards and southwards.

**b) Transport**

John Friedenbach and I spoke with Jason Heywood, who is working with some government agencies in China to secure fresh water exports from the west coast of North America. He has been involved with international goods shipments and the shipping industry and stated that there are many ships available now for conversion to water transport. He believes that he could find ships that could be accommodated by the port in Humboldt Bay, and would only need a floating hose connection to the location where they dock. We told him we would discuss the option with the Board.

**c) Instream Flow Dedication**

The Prop. 1 grant proposal is awaiting review and decision by the Wildlife Conservation Board. We are currently organizing a meeting with NMFS and CDFW to discuss the formula in the HCP that calculates “natural” flows in the Mad River. GHD has done some analyses of using data from one or two days antecedent in the upstream values of the formula, to determine if the results are significantly different.

**Advisory Committee meeting**

On February 3, the Advisory Committee met and discussed the current status of water resources planning. They decided that they would like to meet semi-annually, and that they would like to receive the monthly reports to the Board on this topic. They support us expanding our search to other municipal water districts in California that might be interested in a water transfer from us. They also supported our efforts to define streamflow enhancements that would be beneficial to the Mad River and funding to acquire water rights from us for such enhancements.

# New Business

**HUMBOLDT BAY MUNICIPAL WATER DISTRICT**

To: Board of Directors  
From: Paul Helliker  
Date: February 5, 2016  
Subject: District's Safety Program

Once again it is time for our annual employee recognition regarding workplace safety. Dale and I will provide an overview of our program and accomplishments at our Board meeting next week. This memo provides a brief introduction.

**PRIORITY AND PLACE**

Achieving employee safety and public safety is a top priority for the District. I am pleased to work for an organization that values this objective and takes safety seriously.

The Board has adopted five goals which support our District Mission. Goal Number 1 is Safety and Public Health. It reads:

- Employ safe work practices to ensure worker and public safety at all times. Strive for no on-the-job reportable injuries each year.
- Operate the regional water system in accordance with state and federal safe drinking water laws and regulations at all times to protect public health.

The District has a "safety philosophy" as well as a strong safety program. The Board has consistently supported our safety philosophy and program.

**COMPONENTS OF THE PROGRAM**

Important components of the District's safety program are as follows:

- 1) Buy-in and support *from* Management. We need to set the standard and "walk the talk."
- 2) Buy-in and involvement *by* the employees.
- 3) A meaningful Injury, Illness and Prevention Plan (this is a regulatory requirement).
- 4) An active Safety Committee that is listened to and supported. Our committee is comprised of the Superintendent, one Supervisor, and two employees (one from the Maintenance Department and one from Operations). Membership on the committee rotates each year. Attached for your information are minutes from the last safety committee meeting for you to see the sort of things that are brought up and addressed.
  - a. A meaningful training program. The District has an extensive training program which supports not only employee safety, but ongoing operations, and emergency response activities too. We use ACWA/JPIA's extensive "lending library" for training resources (such as DVDs, videos, manuals), and we also use the North Coast Safety Consortium for local classroom training. Attached is this year's safety training program which lists the training topic as well as who will be leading it.

- 5) Properly fitted and maintained Personal Protective Equipment (PPE) which is suited to the job. The District provides employees with the necessary PPE such as hardhats, safety glasses, hearing protection, respirators, self-contained breathing apparatus, and protective electrical gear. The District trains in its proper use and care. As a matter of policy, the District also reimburses employees for the cost of safety shoes appropriate to the position.
- 6) Other Resources – Safety Manual. The District has developed and maintains a comprehensive safety manual to guide work practices, as well as meet various regulatory requirements. The Table of Contents of our Safety Manual is attached for your information. We will have one copy available at the meeting next week for you to see.
- 7) Recognition – The District instituted a safety incentive/reward program for full-time regular employees. The incentive was increased just last year and effective this year, the District pays \$200 to each current employee who has been employed for at least six months and have experienced no “reportable injuries” the prior calendar year (reportable injuries are defined by OSHA). The District also awards one grand prize of \$500, based on a drawing of all eligible employees. This year, Jasson Klingonsmith is the grand prize winner. There were two reportable injuries or illnesses this past year.

The Eureka office also promotes a “safety culture”, and holds office safety meetings.

I am proud of the “safety culture” developed at the organization, and the results we have achieved. We have employees who “think about” safety and routinely employ safe work practices. As a result, we have had very few on-the-job injuries. This is evidenced by our award from ACWA JPIA for achieving a low ratio of “Paid Claims and Case Reserves” to “Deposit Premiums” in the Workers’ Compensation Program (this award was in last month’s Board Packet). The award is a direct reflection of the safety culture. Additionally, the District participates in ACWA/JPIA’s Commitment to Excellence Program (see attached) and continues to strive for implementation of best practices to prevent injuries and claims.

I would also like to acknowledge that Dale Davidsen, our Superintendent who is instrumental in the continuation of the safety culture that exists within the organization today. He continues to promote and grow this safety awareness.

Once again, Dale and I wish to thank the Board for your support in this area. It really makes a difference.

Attachments:

- Minutes from last Safety Committee meeting
- 2016 Safety Training Program Topics
- Table of Contents from Safety Manual
- ACWA/JPIA Commitment to Excellence Certificate

HUMBOLDT BAY MUNICIPAL WATER DISTRICT  
Workplace Illness and Injury Prevention Program  
Safety Committee Meeting

## Minutes

Date: October 14, 2015

1. **Meeting** called to order at 0920.
2. **Members Attending:** Dale Davidsen  
Larry Raschein  
Paul Jorgensen  
Steve Marshall
3. **Minutes** to be approved from Meeting 15\_3 on July 15, 2015. M/S/C Raschein/Jorgensen
4. **Old Business:**
  - A. Angelo brought forward a request to repair/replace the R-O-W gate for the back access to the TRF. This chain gate is old, awkward, and has caught someone's finger. *(Ryan will recycle Essex front gate and install at chain gate site. Complete by 3/15/16) In Progress.*
  - B. Bill W. had requested eyeglass inserts for full face respirators and SCBAs. *(Steve to report on cost to Dale and order. Awaiting final prescriptions from staff, will be compatible with full face respirator masks used in chlorine tank change outs. NLT 1/13/16.) Steve to get quotes for lenses from local opticians when he has final prescription. ASAP*
  - C. Ryan raised the question about training as a competent person for fall protection and trenching and shoring. He will investigate requirements and training options. *(Ryan will check online for fall protection training. NLT 1/31/15) Fall Protection Competent Person Training is pending. Now awaiting vendor-provided training in our area.*
  - D. Ken brought up the possibility of stairs on the hillside behind Essex to help escape from the confines of the Essex yard and reach a rally point along West End Rd in event of a chlorine release. *(Minimal steps to enable quick egress are to be put in place, Ryan to handle: NLT 10/12/15) (Still looking for way to access rally point without creating ingress to property. Due to possible liability concerns and plant security issues, this item is being removed.)*
  - E. H.R. LaBounty Safety Awards through JPIA *(Ryan to begin process for submittal for shoring trailer. Steve to print and distribute promotional literature.)* Distributed: remove from list.
  - F. Request for containers with some PPE supplies (safety glasses, ear plugs, gloves, respirator, safety vests) to be added to several fleet vehicles. Also hand tools (wrench, pliers, screw drivers, valve wrench, etc.) to facilitate unplanned work when in the field. *(Steve to develop list of proposed tools, PPE gear, and storage boxes. Individual bags for safety gear in trucks NLT 12/10/15.)*
  - G. Request for flashlights in work trucks, which led to other flashlight/work light requests. *(Steve to develop list of proposed equipment. NLT 11/10/15)*

Minutes 15\_4.doc

- H. First Aid and CPR training is now limited to 2-3 individuals per month at NorCal Safety Consortium. Steve is trying to locate a trainer to come to Essex and certify everyone simultaneously. (*Sign up staff for online training if no HSU instructor available. ASAP NLT 1/13/16*)
- I. New SCBA bottles operate at a lower pressure than our existing ISI bottles. Need to mark bottles for inventory and also mark as 'Low Pressure' for safety purposes. (*Steve to have Bill label 'lower' pressure bottle. ASAP NLT 11/10/15*)

5. **New Business**

- A. Asbestos pipe in corp yard needs to be disposed. Larry to investigate and confirm details with Ryan for disposal.
- B. New Safety Committee members to be named are: Carol McKibben and Tim Farrell.

6. **Meeting** adjourned: 0955.

7. **Next** meeting scheduled for February 4, 2016.

Prepared by: Steve Marshall

Copy: Manager  
Superintendent  
Maintenance Supervisor  
Bulletin board and file



**Safety/Training Program 2016**

Updated January 12, 2016

Safety and Training schedule for 2016. Meetings will be scheduled well in advance to prepare all personnel in order to attain maximum participation. This schedule is in addition to classes scheduled in-house for District systems and procedures and with the local agencies on chlorine and class-A suits.

<b>JAN</b>	<b>Code of Safe Practices (WIIPP)</b> Annual:	Dale
	Reference Material: HBMWD Policy	
	Class Time: 1 hour	
	<b>Generator Air Quality Permit Requirements:</b> Annual	Steve
	Reference Material: AQMD Permits	
	Class Time: ½ hour	
	<b>EAP Overview – Dam Safety Plan:</b> Annual	Dale
	Class Time: ½ hour	
<b>FEB</b>	<b>HazMat Certification</b>	Steve
	Through Safety Consortium or other vendor	
	<b>Chlorine Leak Response:</b> Annual	Steve / Ryan
	Class Time: 1 hour	
	<b>Cl2 Leak 'B' Kit:</b> Annual	Steve / Ryan
	Reference Material: HBMWD Manuals and Procedures	
	Class Time: 1 hour	
	<b>Hearing &amp; Respiratory Exams:</b> Annual	Steve / Becky
	Class Time: 1 hour	
<b>MAR</b>	<b>Rigging Safety:</b> Annual	Dave / Ryan
	Reference Material: JPIA video	
	Class Time: 1 hour	
	<b>Asbestos &amp; Silica Handling:</b> Annual	Steve
	Reference Material: JPIA video and training materials	
	Class Time: 2 hour	
<b>APR</b>	<b>Confined Space/Gas Detectors:</b> Annual	Ryan
	Reference Material: HBMWD Policy and JPIA video	
	Class Time: 1 hour	
	<b>Heat Illness Prevention Program:</b> Annual	Steve
	Reference Material: HBMWD Policy and JPIA video	
	Class Time: 1 hour	

# Safety/Training Program 2016

**MAY Traffic Control:** Annual Ryan  
Reference Material: Cal Trans Reference Book, JPIA video,  
and Employee Handbook  
Review District equipment  
Class Time: 1.5 hrs

**JUN Forklift Safety:** Annual Ryan  
Reference Material: JPIA videos and Handbook  
Practical Exercise  
Class Time: 2.5 hours

**JUL Respirator Safety/Fit Testing:** Annual Steve  
Reference Material: District Safety Manual & JPIA video  
Fit Test for each employee  
Class Time: 2 hours

**AUG Lockout Tagout:** Annual Lee / Paul  
Reference Material:  
Class Time: 1 hour

**Electrical Safety:** 3 Year Lee / Paul  
Class Time: 1 hour

**SEP Trench and Excavation Safety:** Annual Ryan  
Reference Material: JPIA video  
Class Time: 2 hours

**OCT Slips, Trips & Falls:** Every Three Years Steve  
Class Time: 1 hour

**NOV Material Safety Data Sheets/Right to Know:** Annual Ryan  
Reference Material: JPIA video  
Class Time: 1 hour

**DEC ISI Air Pack:** Annual Steve  
Reference Material: Power Point  
Class Time: 1 hour

# HUMBOLDT BAY MUNICIPAL WATER DISTRICT SAFETY MANUAL

## TABLE OF CONTENTS

### General Policies/Plans

1. Workplace Illness & Injury Prevention Program
2. Code of Safe Practices
3. General Emergency Action Plan for Each Facility (including fire protection component)
4. OSHA Inspection Procedures

### Hazardous Materials/Chemicals Plans

5. Hazard Communications Program
6. Chemical Hygiene Plan
7. Chlorine Emergency Procedures
8. Process Safety Management (for chlorine system)
9. Risk Management Plan (for accidental release of chlorine)

### Safe Work Practices and Procedures

10. Respiratory Protection Program
11. Confined Spaces Policy & Procedures
12. Energy (Lockout) Policy
13. Hot Work Permit
14. Heat Illness Prevention Program



ASSOCIATION OF CALIFORNIA WATER AGENCIES

**JOINT POWERS**  
 INSURANCE AUTHORITY

# Commitment to Excellence

## ***HUMBOLDT BAY MUNICIPAL WATER DISTRICT***

and the Association of California Water Agencies/Joint Powers Insurance Authority (ACWA/JPIA) in mutual support for ensuring the most consistent, cost effective, and broadest possible affordable insurance coverage and related services, and in partnership with all ACWA/JPIA members, and in the interest of reducing ***Humboldt Bay Municipal Water District's*** insurance costs, commit to a program of excellence that, through the implementation of "best practices" reduces the potential and frequency of:

- **Vehicle Losses**
- **Infrastructure Related Losses**
- **Construction Related Losses**
- **Employment Practices Claims**
- **Ergonomic (Musculoskeletal) and Fall Injuries**

Walt "Andy" Sells (CEO, ACWA/JPIA)  
 Signature

Carol Riesel (General Manager)  
 Signature

[Signature] (Board Member)  
 Signature

[Signature] (Board Member)  
 Signature

[Signature] (Board Member)  
 Signature

[Signature] (Board Member)  
 Signature

[Signature] (Board Member)  
 Signature



# NORTH COAST RESOURCE PARTNERSHIP

## North Coast Resource Partnership (NCRP) Policy Review Panel (PRP) & Technical Peer Review Committee (TPRC) Meeting AGENDA

January 21, 2016; 10 am – 3 pm

[Ukiah Valley Conference Center](#), 200 South School Street, Ukiah

- |     |       |               |  |
|-----|-------|---------------|--|
| I   | 10:00 |               | <b>Welcome, Opening Tribal Prayer, Flag Salute and Introductions</b>   |
| II  | 10:10 | DECISION      | <b>Review and Approve Agenda</b>   |
| III | 10:15 |               | <b>PUBLIC COMMENT for items not on the agenda</b>  |
| IV  | 10:20 | INFORMATIONAL | <b>Presentation: Proposition 1 IRWM Program Guidelines</b><br>Tracie Billington, Chief, IRWM Financial Assistance Branch, California Department of Water Resources   |
| V   | 10:50 | DECISION      | <b>NCRP Disadvantaged Community Outreach &amp; Proposal Application</b><br>Katherine Gledhill, West Coast Watershed<br>NCRP Proposition 1 Ad Hoc Committee   |
|     |       |               | <b>PUBLIC COMMENT</b>  |
| VI  | 11:20 | INFORMATIONAL | <b>Panel Presentations &amp; Discussion: Storm Water Resource Planning</b><br><i>Panel Chair: David Kuszmar, Engineer, North Coast Regional Water Quality Control Board (NCRWQCB)</i><br><i>Colleen Hunt, Environmental Scientist, NCRWQCB</i><br><i>Andy Rodgers, Executive Director, Russian River Watershed Association</i><br><i>Hank Seemann, Deputy Director, Public Works Dept, Humboldt County</i><br><i>Jeannette Hook, Administrative Assistant, City of Yreka</i><br><i>Diana Messina, Supervising Engineer, Division of Water Quality, State Water Resources Control Board (SWRCB)</i><br><i>Sean Maguire, Senior Engineer, Division of Financial Assistance &amp; Unit Chief, Storm Water Funding Unit, SWRCB</i> |

	12:20		WORKING LUNCH (PROVIDED)
VII	12:50	DECISION	<b>NCRP Quarterly Meeting Locations</b> NCRP PRP Chair, Supervisor Morris
			<b>PUBLIC COMMENT</b>
VIII	1:00	DISCUSSION	<b>NCRP Long-term Funding Strategies</b> Karen Gaffney, West Coast Watershed NCRP Funding Ad Hoc Committee
IX	1:50	DISCUSSION	<b>NCRP 10 Year Celebration</b> NCRP PRP Chair, Trinity County Supervisor Morris
X	2:00	DECISION	<b>NCRP Goals and Objectives</b> NCRP PRP Chair, Supervisor Morris
			<b>PUBLIC COMMENT</b>
XI	2:10	INFORMATIONAL	<b>Updates</b>
		i.	<b>Legislative News</b> Ann DuBay, Public Information Officer, Sonoma County Water Agency
		ii.	<b>North Coast Tribal Engagement Update</b> Sherri Norris, Executive Director, California Indian Environmental Alliance
		iii.	<b>Regional Administrator Update</b> (see meeting materials)
		iv.	<b>Strategic Growth Council (SGC) Sustainable Communities Planning Grant</b> NCRP SGC Ad Hoc Committee Chair, Supervisor Lovelace Karen Gaffney, West Coast Watershed
		v.	<b>Cannabis Ad Hoc Committee Update</b> NCRP PRP Chair, Supervisor Morris
		vi.	<b>Executive Committee, PRP direction and staff action</b> (see meeting materials)
XII	2:50		<b>PUBLIC COMMENT</b>
XIII	2:55		Next NCRP meeting date: April 21, 2016
XIV	3:00		<b>ADJOURN</b>

**Policy Review Panel Members**

Chair: Supervisor Judy Morris, Trinity County  
Vice-Chair: Supervisor Efren Carrillo, Sonoma County  
Edwin Smith, Tribal Council, Bear River Band of the Rohnerville Rancheria, Central District  
Supervisor Gerry Hemmingsen, Del Norte County  
Supervisor Chris Howard, Del Norte County  
Alternate: Supervisor David Finigan, Del Norte County  
Supervisor Ryan Sundberg, Humboldt County  
Supervisor Mark Lovelace, Humboldt County  
Alternate: Supervisor Virginia Bass, Humboldt County  
Supervisor Carre Brown, Mendocino County  
Supervisor John McCowen, Mendocino County  
Alternate: Supervisor Dan Gjerde, Mendocino County  
Supervisor Geri Byrne, Modoc County  
Leaf Hillman, Director of Natural Resources, Karuk Tribe, Northern District  
Alternate: Vernon Ward, Social Services Coordinator, Pit River Tribe, Northern District  
Supervisor Grace Bennett, Siskiyou County  
Supervisor Ray Haupt, Siskiyou County  
Supervisor James Gore, Sonoma County  
Alternate: Dale Roberts, TPRC member, Sonoma County  
Alternate: Wayne Haydon, TPRC member, Sonoma County  
Brandi Brown, Redwood Valley Little River Band of Pomo, Southern District  
Alternate: Martina Morgan, Tribal Council Vice-Chair, Kashia Band of Pomo, Southern District  
Supervisor Karl Fisher, Trinity County

**Technical Peer Review Committee Members**

Co-Chair: Wayne Haydon, Certified Engineering Geologist, Sonoma County  
Co-Chair: Sandra Perez, Program Manager, Five Counties Salmonid Conservation Program, Trinity County  
Javier Silva, Environmental Director, Sherwood Valley Rancheria, Central District  
Jim Barnts, Director of Public Works, Del Norte County  
Zack Larson, Smith River Watershed Coordinator, Del Norte County  
Paul Helliker, General Manager, Humboldt Bay Municipal Water District, Humboldt County  
Hank Seemann, Deputy Director, Environmental Services, Public Works Department, Humboldt County  
Patty Madigan, Mendocino County RCD, Mendocino County  
Sean White, Director of Water and Sewer, City of Ukiah, Mendocino Co  
Sean Curtis, Modoc County Natural Resources, Modoc County  
Toz Soto, Senior Fisheries Biologist, Karuk Tribe, Northern District  
Alternate: Marissa Fierro, Environmental Coordinator, Pit River Tribe, Northern District  
Marilyn Seward, City of Etna, Siskiyou County  
Richard Tinsman, Deputy Director, Planning Division, Siskiyou County  
Dale Roberts, Engineer, Sonoma County Water Agency, Sonoma County  
Nathan Rich, Kashia Band of Pomo, Southern District  
Alternate: Emily Luscombe, Environmental Director, Coyote Valley Band of Pomo, Southern District  
Wes Scribner, General Manager, Weaverville Community Services District, Trinity County  
Alternate: Mark Lancaster, Director, Five Counties Salmonid Conservation Program, Trinity County

**Executive Committee**

Chair: Supervisor Judy Morris, Trinity County  
Vice-Chair: Supervisor Efren Carrillo, Sonoma County  
Supervisor Grace Bennett, Siskiyou County  
Leaf Hillman, Karuk Tribe

**Funding Ad Hoc Committee**

Supervisor Judy Morris, Trinity County  
Supervisor Efren Carrillo, Sonoma County  
Supervisor Grace Bennett, Siskiyou County  
Supervisor James Gore, Sonoma County  
Javier Silva, Sherwood Valley Rancheria  
Marissa Fierro, Pit River Tribe  
Wayne Haydon, Certified Engineering Geologist, Sonoma County

**SGC Ad Hoc Committee**

Supervisor Mark Lovelace, Humboldt County  
Toz Soto, Karuk Tribe, Northern District

**Proposition 1 Ad Hoc Committee**

Supervisor Judy Morris, Trinity County  
Supervisor Grace Bennett, Siskiyou County  
Supervisor Mark Lovelace, Humboldt County



# Engineering

**TECHNICAL MEMORANDUM****BENNETT**  
trenchless engineers950 Glenn Drive, Suite 115  
Folsom, CA 95630  
Ph 916.294.0095

**Date:** January 29, 2016

**To:** Patrick Kaspari, PE  
Senior Project Manager

**Prepared By:** Matthew Wallin, PE  
Kate Wallin

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**HUMBOLDT BAY MUNICIPAL WATER DISTRICT**  
**BLFG CSD Water Transmission Pipeline Replacement – Mad River Crossing**  
**TRENCHLESS FEASIBILITY REPORT**

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**1. Description of Project and Scope of Work**

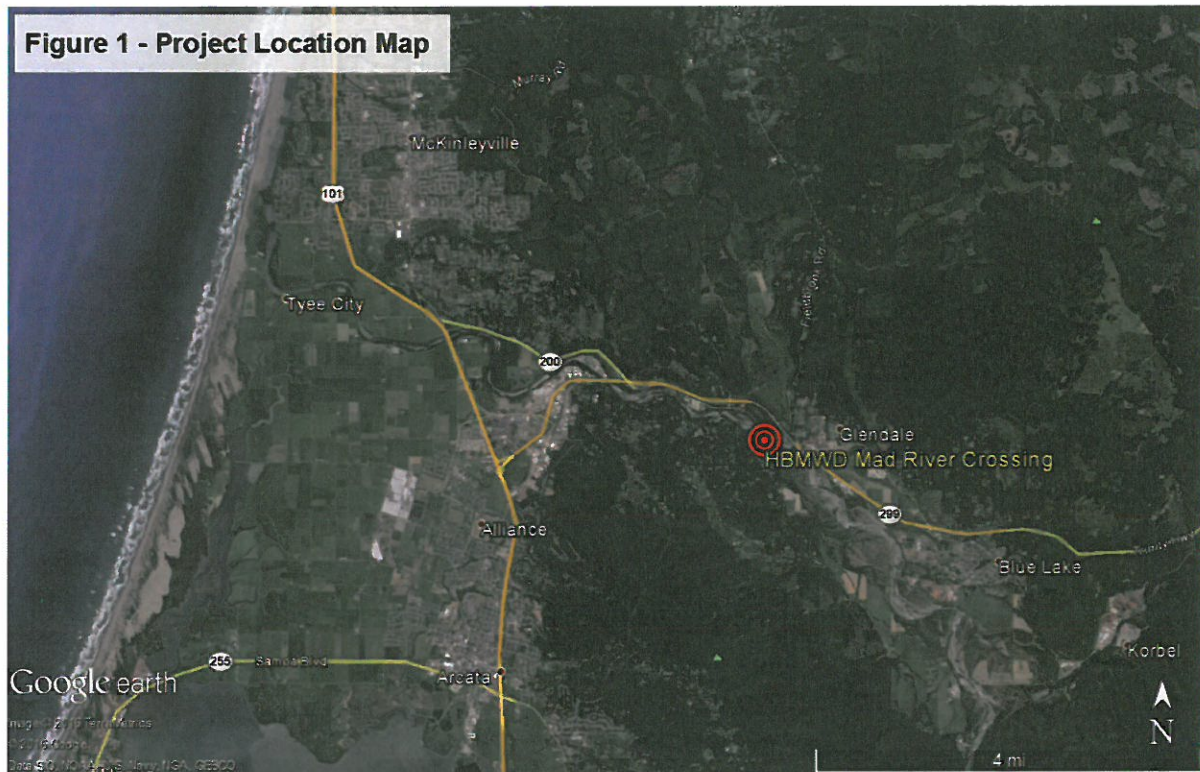
Humboldt Bay Municipal Water District's (HBMWD; District) Blue Lake and Fieldbrook–Glendale (BLFG) Community Services District (CSD) Water Transmission Main Replacement Project consists of the abandonment and replacement of the District's existing 14-inch water main crossing of the Mad River. This pipeline provides the main water supply to the Blue Lake, Fieldbrook, and Glendale communities. The existing pipeline crosses above the river on a disused North Coast Railroad Authority (NCRA) bridge that is in deteriorating condition and is no longer maintained by NCRA. HBMWD is currently working with GHD in the early stages of the project to replace the vulnerable existing crossing. Two options are being investigated for constructing a new crossing: a new pipe bridge, or a new trenchless installation beneath the river. Bennett Trenchless Engineers (BTE) has been retained by GHD to as a subconsultant to evaluate the feasibility and planning-level construction cost for the trenchless crossing alternative.

This Trenchless Feasibility Report describes the trenchless construction feasibility issues considered for the BLFG CSD Water Main Replacement across the Mad River. A preferred trenchless construction method and alignment are recommended, based on evaluation of technical feasibility, relative construction risks, impacts to the surrounding areas and site features, and relative cost. Hydrofracture and pipe stress analyses were conducted for the recommended trenchless alternative to ensure the conceptual alignment presented is constructible.

## 2. Site Conditions

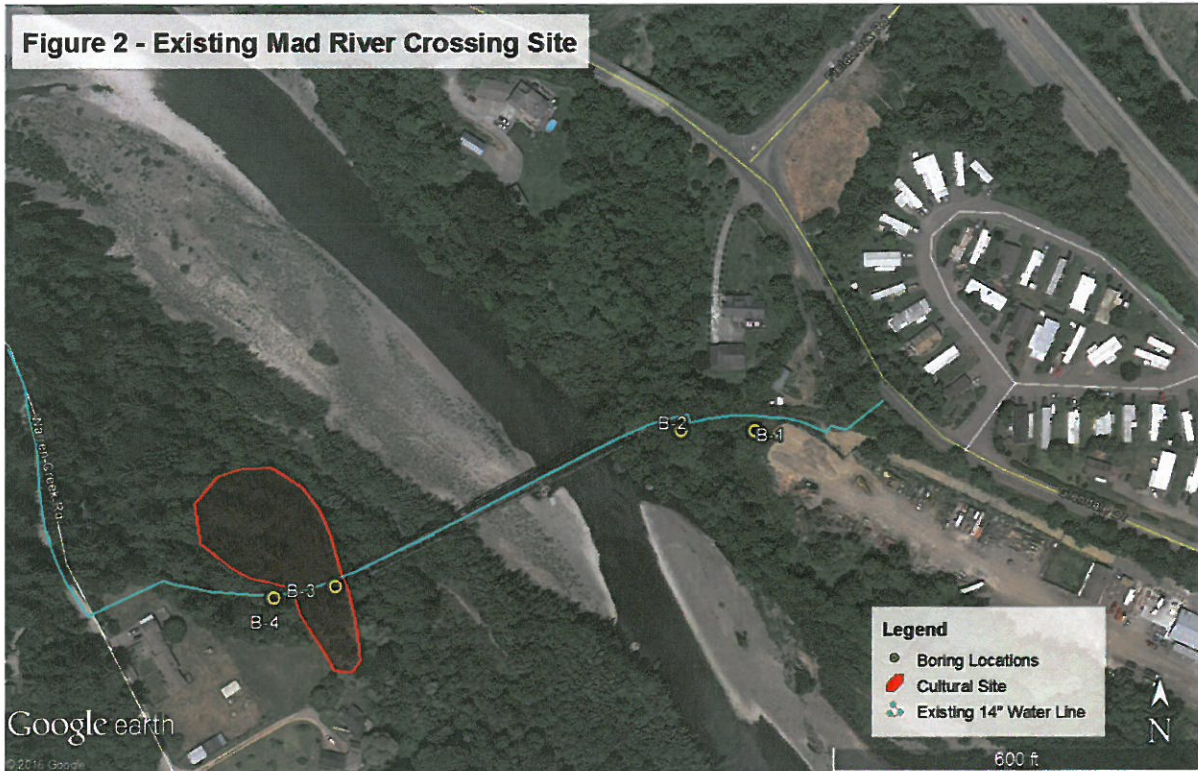
### 2.1. Surface Conditions

As shown in Figure 1, the existing pipeline crossing of the Mad River and the proposed replacement crossing are located approximately 3.6 miles northeast of Arcata, CA, just south of Highway 299 on the west edge of the community of Glendale.



The existing waterline begins at HBMWD's pumping station located along West End Road in Arcata, and then flows east along West End Road before turning onto Warren Creek Road and continuing approximately 4,000 feet. As shown in Figure 2, the water line then turns east off the road, crosses a private residential parcel, and then crosses the Mad River attached to the existing NCRA bridge. After crossing the river, the pipeline follows the abandoned railroad grade adjacent to property owned by GR Sundberg, Inc. that is currently used as an equipment yard for their contracting business. Finally, the pipeline turns northeast and connects to distribution lines running in both directions along Glendale Drive, approximately 450 feet southeast of the intersection with Fieldbrook Road in McKinleyville.

The site topography at the river crossing consists of relatively flat terraces on both sides with a deep channel and steep banks. The elevation on both sides of the river is approximately 85 to 90 feet, with the majority of the river bed at elevation 35. The deepest elevation of the main channel at the crossing location is approximately elevation 29 to 30.



The northeastern side of the proposed crossing is located at the far western end of GR Sundberg's large equipment yard. The site has been recently graded flat, is free of vegetation, and currently does not have any equipment stored nearby. However, the reason for the recent grading is unknown and GR Sundberg may have plans to develop the area in some way. The area between the equipment yard and the north end of the NCRA bridge has some undergrowth and small trees. Additionally, there are telecom and electrical lines that cross the river on the NCRA bridge and then run overhead along the western boundary of the Sundberg equipment yard.

The southwestern side of the proposed crossing is located approximately 500 feet north of the intersection of Warren Creek Road and Burlwood Lane in a wooded area. The southern and western sides of the project site are bounded by two private residential parcels. As the pipeline comes off of the NCRA bridge, it follows the abandoned railroad grade which is currently overgrown with low vegetation and small trees. The surrounding area to the east and north is fully forested with mature trees and undergrowth. The telecom line that crosses the NCRA bridge continues underground to the west from the end of the bridge to Warren Creek Road.

During the initial investigation stages of the project, a large cultural site was discovered along the west bank of the river. The approximate limits of the site are shown in red in Figure 2. It is important that the replacement project limit disruption to the near surface soil within the cultural site limits.

## 2.2. Subsurface Conditions

The geotechnical investigation for the Mad River crossing was performed by Crawford & Associates, Inc. (CAInc). Four geotechnical borings were completed along the proposed crossing alignment, two on each bank of the river. Boring logs and the results of laboratory testing have been provided by CAINc for the preparation of this trenchless feasibility analysis. The locations of the borings are shown in Figure 2, as B-1 through B-4, from east to west.

Each of the four borings encountered similar soil and rock layers. In areas formerly occupied by the NCRA rail line, a few feet of fill materials consisting of clayey soil with significant gravel from the rail ballast were encountered at the surface. Below the fill, the borings encountered 2 to 12 feet of terrace alluvium deposits consisting of stiff to very stiff clay, sandy clay, and dense clayey sand with varying amounts of gravel up to 30-40%. Beneath the terrace deposits, the borings encountered 3 to 6 feet of residual soil from advanced weathering of the bedrock below. The residual soil exhibited similar properties of stiff to very stiff clay, sandy clay, and dense clayey sand with varying gravel portions. Finally, each of the borings encountered 5 to 12 feet of weathered meta-argillite bedrock, followed by fresh bedrock to the maximum depths explored. The terrace alluvium was thickest in Borings B-2 and B-3, immediately adjacent to the river banks, while the remaining soil layers showed relatively consistent thickness, with the lithographic contacts sloping toward the river on each side. The contact with weathered bedrock also sloped toward the river on each side. Rock contact elevations were 75 and 77 feet in Borings B-1 and B-4, respectively, approximately 180 feet from each river bank. Rock contact elevations in Borings B-2 and B-3 were 64 and 61 feet, respectively, approximately 100 feet from each bank. A profile of the soil and rock layers encountered is included in the Preliminary Geotechnical Report prepared by CAINc, dated December 2015. It has not been included in this report as any trenchless crossing alternative will need to be constructed approximately 15 to 30 feet below the bottom of the river channel and will therefore be constructed almost entirely within the fresh bedrock.

Groundwater was not encountered in any of the borings. However, the deepest boring only reached elevation 48 feet. It is assumed that groundwater would be encountered near the surface water elevation of the river at approximately 35 feet.

## 3. Trenchless Construction Method

Trenchless construction methods such as auger boring (sometimes referred to as bore and jack), open-shield pipejacking, and pipe ramming are open-faced methods where the excavation face is not sealed against groundwater and unstable soil conditions. These methods are not suitable for construction in saturated conditions such as river crossings due to the risk of flooding within the tunnel. There are several trenchless construction methods suitable for installing a pipeline beneath a river including earth pressure balance (EPB) pipejacking, microtunneling, and horizontal directional drilling (HDD). Due to the anticipated solid rock conditions combined with the required length of the crossing (at least 700 feet) the use of microtunneling or earth pressure balance pipe jacking would be challenging due to the risk of tooling wear while excavating the rock. Additionally, the depth of a microtunneled or EPB pipejacking crossing (at least 60 feet below the terraces) would require very expensive shaft

excavations preventing these methods from being cost competitive with HDD. Finally, microtunneling or EPB pipejacking equipment capable of tunneling in rock would be a minimum of 48 inches in diameter to allow for the proper tooling to be used at the excavation face. The water line would then be installed within the oversized steel casing pipe installed by the microtunnel or EPB equipment. This two-step installation process would further exacerbate the issues with cost competitiveness. These factors leave HDD as the sole feasible, practical, and cost efficient method for completing the Mad River trenchless crossing.

### 3.1. Horizontal Directional Drilling

Horizontal directional drilling (HDD) is a trenchless construction method whereby a pipe is installed along an arcing drill path, beginning and ending at the ground surface, and passing under the conflicting feature in between. As illustrated in Figure 3a, a drill rig is set up on one side of the crossing and commences drilling a pilot bore to the exit point. The alignment typically begins with an 8- to 16-degree declined tangent section that extends into a vertical curve with a radius typically between 500 and 5,000 feet, depending on pipe diameter, pipe material, and required geometry. After passing beneath the obstacle, the alignment will rise to the surface at a typical inclined angle of 5 to 16 degrees.

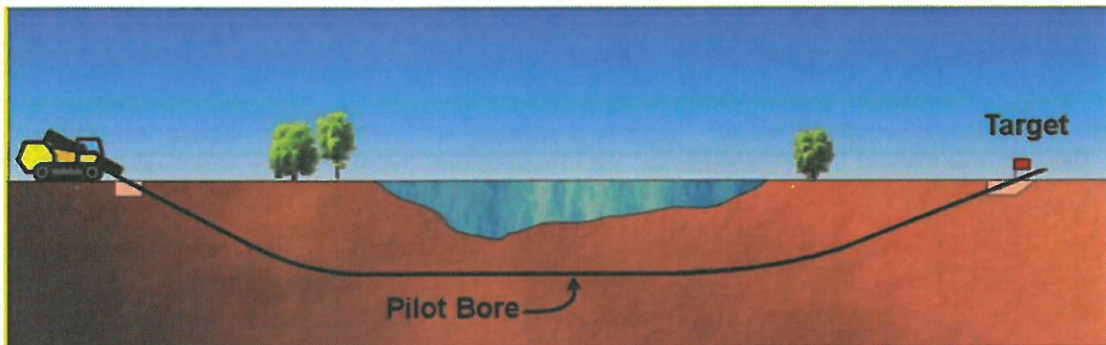


Figure 3a: Pilot Bore of HDD Operation

The pilot bore is then reamed in one or more passes to obtain the required diameter needed for pullback of the prefabricated pipe string. Once reaming is complete, the drill pipe is connected to the product pipe with a swivel and pulling head at the exit side of the alignment, and pulled into place, preferably in one continuous operation, as illustrated in Figure 3b.

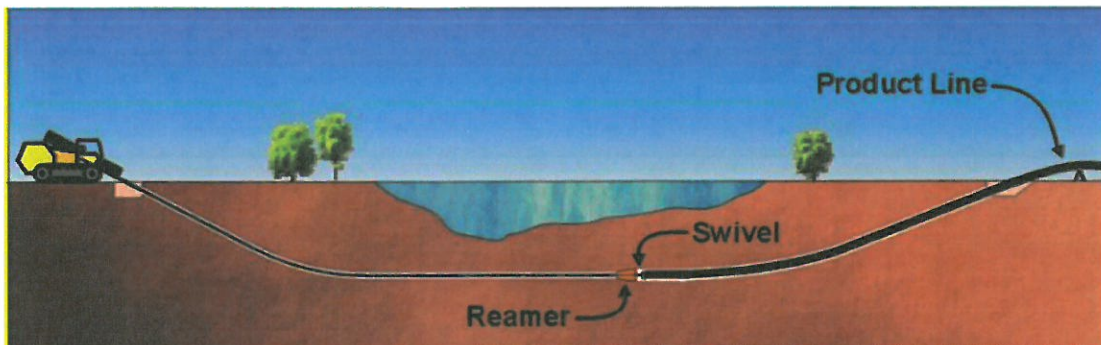


Figure 3b: Pullback of Product Pipe in HDD

During the pilot bore, steering is accomplished using an angled bit and rotating drill pipe. To advance the bore in a straight line, the bit is rotated and advanced simultaneously. To steer, the operator aligns the angled face of the bit in the desired direction and advances the drill stem without rotating. As the bit is advanced, ground resistance develops against the angled bit and deflects the bore in the desired direction.

Guidance of the system for a typical crossing of this length is accomplished by the use of a downhole wireline steering tool located in a non-magnetic drill pipe, immediately behind the bit. This tool measures the pitch, clock face position, and magnetic azimuth of the bit and sends the data back to the surface to the drill rig operator. The position of the bit is calculated after each successive drill pipe has been pushed using the pipe length, average pitch, and average azimuth angle reported for each reach. Accuracy of the basic downhole wireline system can be improved with the use of an energized surface coil such as the TruTracker or ParaTrack system. These systems create a magnetic field at the ground surface that can be detected and interpreted by the downhole tool to triangulate the position of the drill head. An 8- to 10-gauge copper wire coil must be laid on the surface around the bore path. The corners and any bends of the coil are then surveyed prior to drilling so that the induced magnetic field can be predicted. Achievable line and grade tolerances for a typical HDD installation in favorable ground conditions using a downhole steering tool and surface coil are on the order of plus or minus 1 to 10 feet over the length of the bore, assuming good practices.

HDD can be used in most soil conditions and solid rock, when the proper tooling is used. Additionally, it can be used to install pipelines below the water table. Large quantities (more than 15-30%) of cobbles and permeable gravel soils can cause problems with HDD installations due to loss of drilling fluid and collapse of the borehole. Individual larger boulders can obstruct progress. However, special design features such as conductor casing can be used to accomplish bores through these soils if the thickness of the problem soils is limited to less than approximately 30 vertical feet, near the surface.

HDD is capable of installing cables and pipes ranging from 2 inches to over 48 inches in diameter, and individual bores greater than 10,000 feet long have been completed. The equipment is typically categorized into three sizes: small, medium, and large rigs. The cost, staging area required, and construction duration increases as bore length, diameter, and rig size increase. Small HDD rigs are generally used for product pipes up to approximately 8 inches in diameter, or bundles of smaller 2- to 4-inch pipes. Medium size rigs can install single or bundles of pipes up to approximately 18 inches in diameter and large rigs are used for larger pipes up to approximately 60 inches, or for very long bores that have high torque and pullback forces. The average required staging area for each of the size classes is 1,500, 10,000, and up to 30,000 square feet, respectively.

The HDD process uses a bentonite-based drilling fluid to aid in excavation of the soil, to carry the cuttings from the bit back to the drill rig, to provide hydrostatic support to the otherwise unsupported borehole, and to cool and lubricate the drill pipe and tooling during drilling. For medium and large-sized installations, the returned drilling fluid is collected and sent through a solids separation plant consisting of a system of vibrating screens and hydrocyclones which remove the majority of the native soil from the slurry. The clean drilling fluid then recycled and

sent back down to the bit. While HDD operations are surface-launched and do not typically require any shored excavations, drilling fluid recovery pits are typically excavated at each end of the bore. These pits are typically approximately 3 to 6 feet wide, 6 to 12 feet long, and 2 to 4 feet deep.

Because of the large quantities of drilling fluid used, an important consideration for HDD projects is the risk of inadvertent fluid returns (often referred to as hydrofractures or frac-outs). Inadvertent fluid returns can occur when excess drilling fluid pressures cause fluid to escape the bore and surface through granular soils, cracks in cohesive soils, or along other natural or man-made conduits. While the drilling fluid is generally a non-toxic mixture of water and bentonite clay, drilling fluid spills are often viewed as an environmental risk. Therefore, it is important to design HDD projects to reduce the risks of inadvertent returns.

#### **4. Alignment Description and Work Area Considerations**

##### *4.1. Bore Alignment Description*

As described in the previous section, horizontal directional drilling is the most feasible and cost-effective trenchless construction method available for completing the Mad River crossing. Figures 4 and 5 illustrate our conceptual bore alignment and profile for the trenchless crossing alternative. The bore design was developed based on the capabilities and limitations of the HDD method, the required pipe diameter, mitigation of potential hydrofracture risks to the river channel, and the other site constraints. The conceptual bore alignment is 1,125 feet long, measured horizontally between the entry and exit points. It is 1,145 feet long measured along the curved vertical profile. The proposed entry point is located at Station 0+00, approximately 90 feet east of Warren Creek Road, 600 feet north of the intersection with Burlwood Lane. The bore will continue almost due east to the west end of the GR Sundberg equipment yard, crossing diagonally beneath the NCRA bridge near the east bank of the river. The conceptual has been designed to pass a minimum of 20 feet beneath the channel of the Mad River at all points along the profile. (It should be noted that the currently available site survey does not cover the western half of the proposed bore. We have done our best to extrapolate the available contour data to approximate the topography along the bore. If the HDD crossing alternative is advanced into design, the conceptual bore alignment may have to be modified to fit site specific data.) The entry and exit angles for the conceptual bore are both 16 degrees. Both vertical curves have a radius of 1,000 feet and the lowest elevation of the proposed bore alignment is 5 feet.

The west end point of the bore was chosen to keep the bore as short as possible, while still attaining adequate depth beneath the river. It was also chosen to allow for a short connection length to the existing water line, to keep the bore within HBMWD property, and to allow for construction access directly off of Warren Creek Road without affecting either of the nearby private properties. Finally, the bore was sited to avoid disruptions to the identified cultural site.

The east end point was similarly chosen to minimize the bore length, but maintain adequate depth. It was also chosen to allow for a short connection to the existing line, and to minimize disruption to the Sundberg's property.



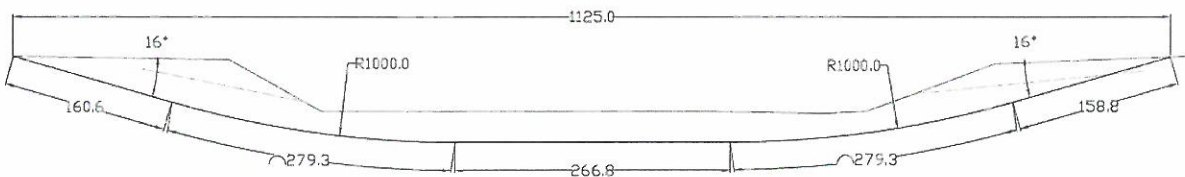
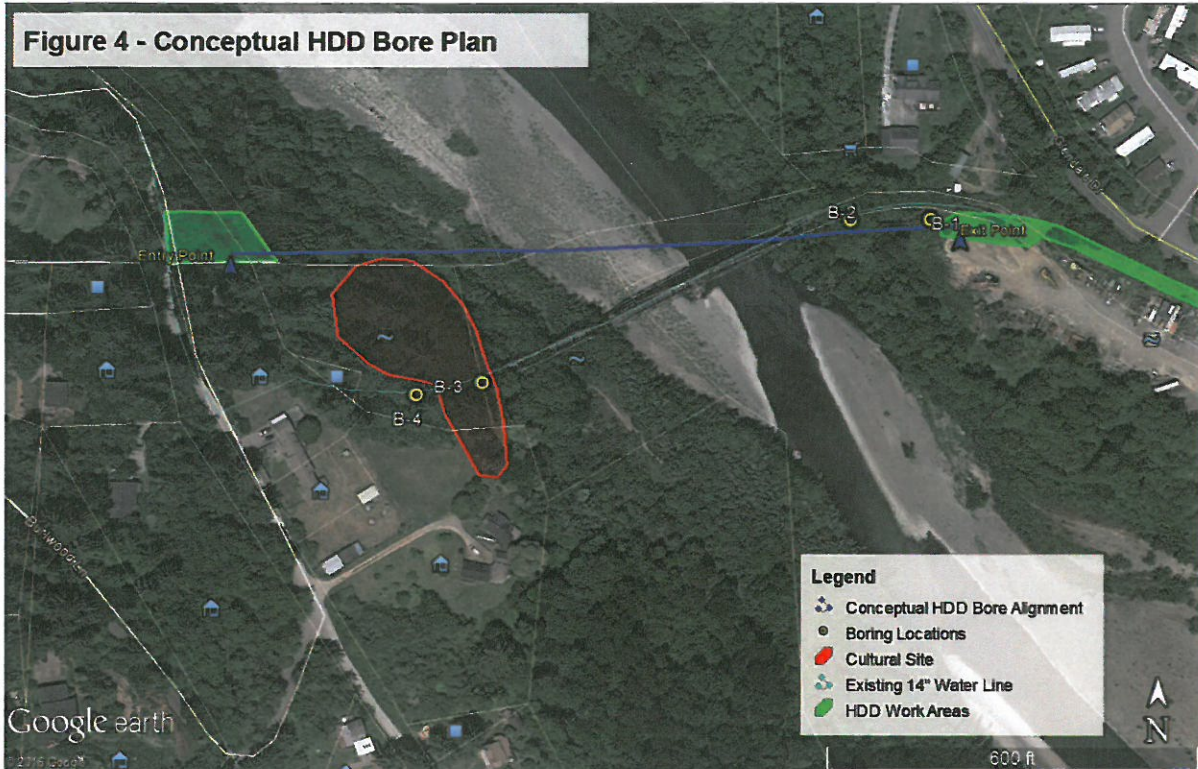


Figure 5 – Conceptual HDD Bore Profile

Typically, the depth of an HDD bore for a river crossing is chosen to mitigate the risk of hydrofracture (or inadvertent fluid returns) into the river channel during construction. Because this bore is anticipated to be constructed completely within the bedrock, risk of hydrofracture is anticipated to be low, unless significant open joints, fractures, or faulting is encountered. In this case, the depth of the bore was set at 20 feet below the channel bottom to reduce the risk of drilling fluid returns through existing pathways in the rock mass, and to avoid possible historic flow channels that have been infilled with alluvial sand, gravel, and cobbles. If an HDD solution is carried forward into design, further investigations will be necessary to investigate the rock profile within the river channel, likely using geophysical methods. The depth of the bore alignment could be increased to a minimum of 30 feet if necessary.

#### 4.2. Staging Area Considerations

Due to the diameter, length, and ground conditions of the proposed HDD crossing, a medium HDD rig will likely be required. The typical required staging area for this size rig is approximately 10,000 square feet at the entry side of the bore. The work area is necessary to support not only the drill rig, but several pieces of ancillary equipment, including a backhoe or

boom truck, drill pipe and bentonite storage, drilling fluid pumps, fluid storage tanks, a solids separation plant, tool trailers, and other support equipment for the drilling operations. The exact shape of the work area can be flexible for most of the equipment, and certain pieces, such as the separation plant, do not have to be located immediately adjacent to the entry point. However, the drill rig, backhoe or boom truck, and drill pipe storage must be located in an area approximately 30 feet wide by 75 feet long, aligned directly behind the entry point, that is completely clear. Additionally, the separation plant needs to have a clear area measuring approximately 30 feet wide and 40 feet long.

The required layout area for the exit side, or pipe side, of the bore is equal to the length of the pipe to be installed, by approximately 20 to 50 feet wide. Ideally, the pipe is completely assembled prior to pullback and installed without stopping to weld/fuse pipe. Interruptions during pullback increase the risk of bore collapse and/or the pipe becoming stuck within the bore. For this project, an intermediate pipe fuse/weld would not be extremely risky as the bore should be stable in the bedrock, reducing the risk of restrictions in the bore that may develop during a stoppage.

For the Mad River crossing, an HDD bore could be advanced in either direction. The Sundberg equipment yard on the east side provides substantial layout area for either the drill rig setup or pipe fabrication and layout. On the west side, undergrowth and some trees would have to be cleared to allow for either work area. If the entry point were located on the west side, a large, roughly rectangular work area would be needed measuring approximately 10,000 square feet. Approximately 3,500 square feet would need to be completely cleared for the drill rig, drill pipe storage and handling, and the separation plant. The remaining area could likely retain any mature trees, with the equipment stored below the canopy.

If the exit point were located on the west side, a long, narrow work area would have to be cleared to allow for pipe fabrication and layout prior to pullback. If the entire pipe were fabricated in one piece, the work area would measure approximately 20 feet wide by 1,200 feet long. An intermediate weld could reduce the required area to approximately 25 feet wide by 600 feet long. The majority of this work area would not have to be completely cleared, however one clear location measuring approximately 30 feet wide by 50 feet long would be necessary for setting up the fusion machine and pipe handling equipment.

While the details of the two options are different, the overall impacts to forested area west of the river appear to be similar. For the purposes of this feasibility analysis, we have recommended that the drill rig entry site be located on the west side. This recommendation is primarily based on a request by one of the private landowners that the project avoid creating a pathway for public access from Warren Creek Road to the river near his property. Clearing of a long, narrow work area for pipe layout may create the impression that a trail has been created for river access.

Figure 6 shows, in more detail, the proposed entry point work area on the west side of the river. The area is yellow shows the approximate limits of the area that would need to be completely cleared. The remaining area in green would only require undergrowth removal.

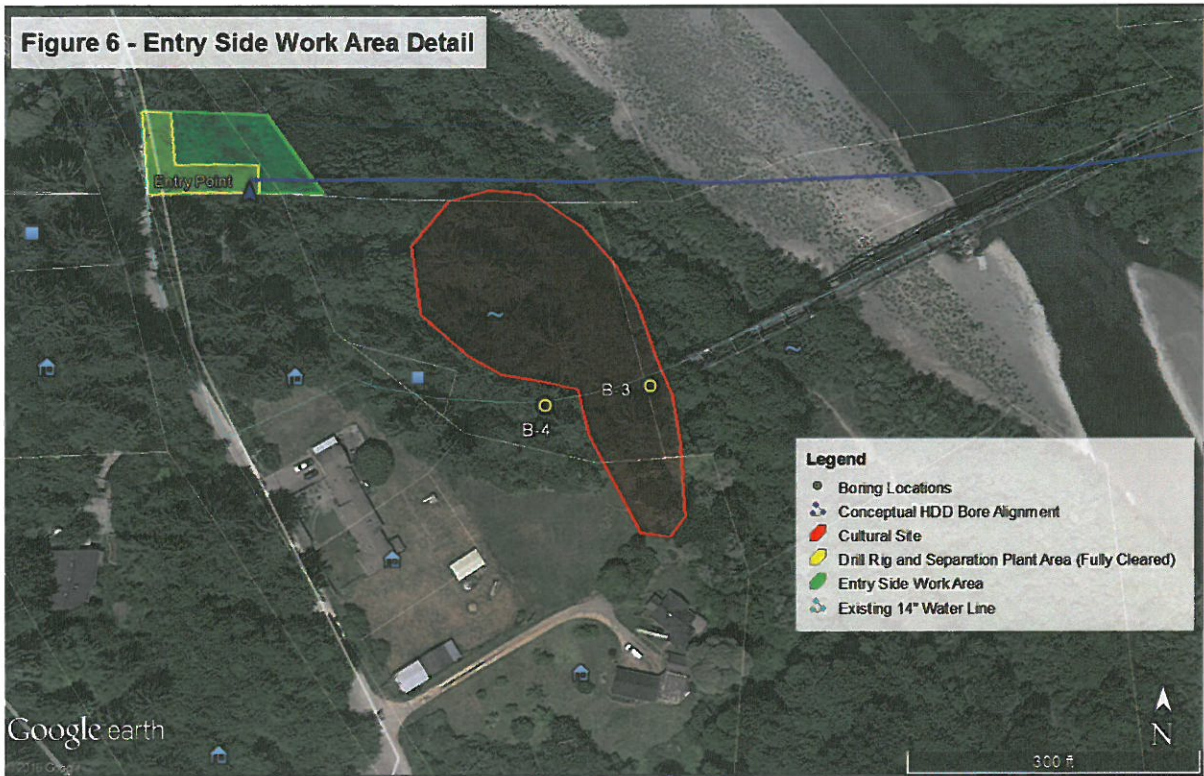
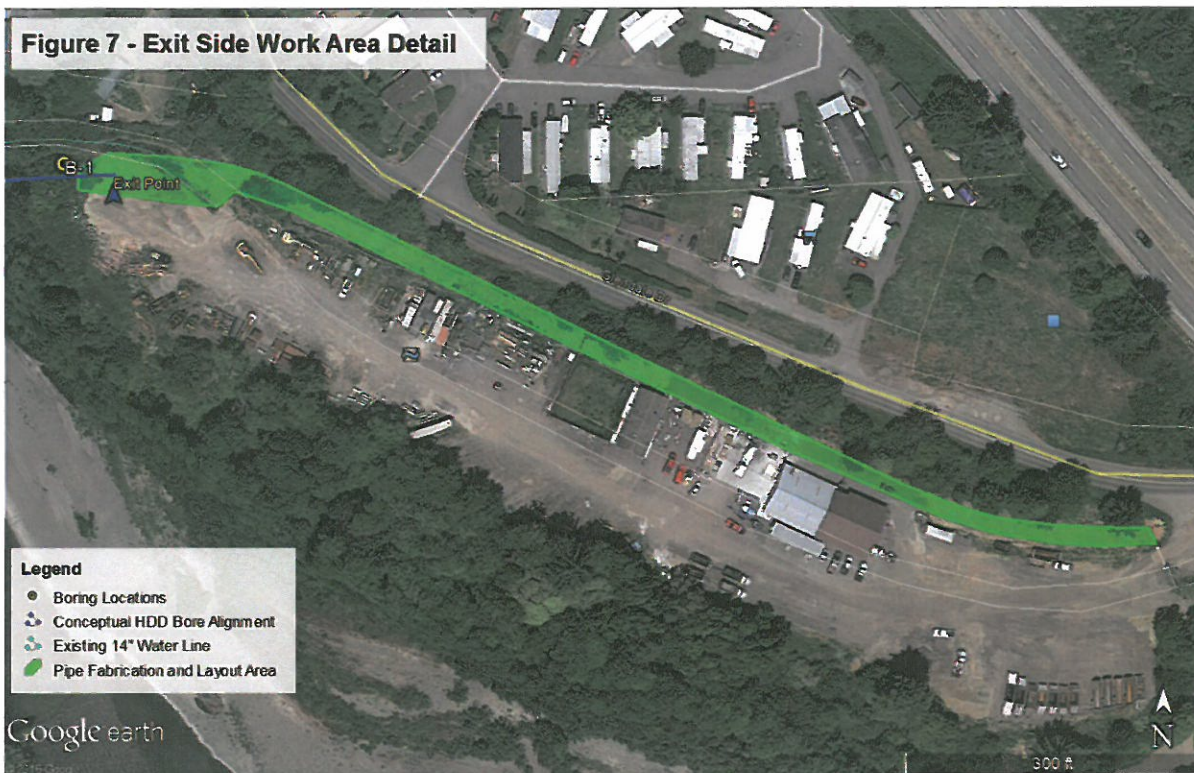


Figure 7 illustrates the proposed pipe fabrication and layout area on the east side of the river. The full length of pipe could be fabricated and laid out for pullback along an open, 20-foot wide corridor behind (north) the GR Sundberg equipment storage and workshop areas. This option is expected to minimize disruption to Sundberg’s operations during the HDD construction. However, if this option is not favorable to Sundberg, there are two alternative possibilities. One option would be to string the pipe through Sundberg’s main access drive, in front (south) of the buildings. The final option would be to continue routing the pipe east, through the row of trees along Glendale Drive, and then run the pipe along the south shoulder of the road, within the public right-of-way. This option may require closing a portion of the south edge of the road, but we believe that two-way traffic could be maintained on Glendale Drive with narrowed lanes.



## 5. Design Considerations

### 5.1. Pipe Material Considerations

The most common pipe materials used with HDD are steel, HDPE, fusible PVC (FPVC), and ductile iron (DI). Of these four, HDPE and steel are by far the most commonly used. Fusible PVC is a product that was developed relatively recently, but the material has been gaining recognition and popularity in the HDD market and many HDD projects have been successfully completed using FPVC.

Corrosion resistance is a concern for most projects. Unlined and uncoated steel and ductile iron pipe could be subject to corrosion both inside and out. In certain applications steel and DI pipe can be lined and coated with mortar, coal tar, or various epoxies to prevent corrosion. However, for small-diameter HDD installations, linings used with steel pipe cannot be patched after sections are welded together. For DI pipe used in water applications cement mortar is available as a lining alternative. Coatings used with either steel or DI may also be damaged during pullback due to abrasion from the rock in the bore walls. It is assumed that any coatings considered would have to be robust enough to survive pullback, be protected by another sacrificial coating, or be used in combination with an additional cathodic protection scheme. Due to the difficulties related to corrosion protection, steel is not considered practical for use as the carrier pipe for this project. DI may be may be a feasible option, but further analysis regarding corrosion risks would need to be performed. HDPE and FPVC are advantageous materials for many pipeline applications as they are inert to corrosion.

Another consideration for pipe material is outside diameter (OD). Steel, HDPE, and FPVC joints are connected using butt-welding methods that result in a uniform external diameter. The relative tensile strengths of the pipe materials dictate that for a nominal 14-inch diameter ID, the OD will be smallest for steel (~15 inches), slightly larger for FPVC (15.3 inches), and largest for HDPE (18 inches). Ductile iron pipe uses a raised bell and spigot joint system where the maximum diameter at the bell is approximately 4 inches larger (19.3-inch OD) than the main pipe barrel (15.3-inch OD). The larger pipe materials require the excavation of a larger bore diameter. This increases drilling time and thus bid cost, especially for a bore drilled in rock.

Based on the considerations presented above, HDPE and FPVC pipe are the most likely carrier pipe materials to be used for the Mad River crossing. If the HDD option is carried forward to design, a more thorough analysis of DI as a potential pipe material could be conducted. The analyses presented in the following sections address the use of HDPE or FPVC as the carrier pipe for the water line.

## **6. Pullback and Pipe Stress Analysis**

To analyze the pipe material options and pipe wall stiffness requirements, we have conducted preliminary pullback and pipe stress analyses.

The pullback calculations have been performed based on a combination of the methods laid out in the Plastics Pipe Institute's Handbook of Polyethylene Pipe, and J.D. Hair and Associates' 1995 engineering design guide entitled "Installation of Pipelines by Horizontal Directional Drilling". These methods estimate the loads that the pipeline will experience as it is pulled into the bore and analyze the combined tensile and bending stresses, as well as buckling failure potential of the pipe resulting from these loads. The loads are estimated by calculating the expected frictional drag due to the friction between the pipe and the wall of the bore, the fluidic drag as the pipe is pulled through the drilling fluid in the bore, the effects of the weight of the pipe, and the additional force arising from capstan effect as the flexible pipe string is pulled through bends in the bore. The analysis of the fluidic drag component of these calculations is based on an approach described by Duyvestyn, 2009.

The pipe parameter values assumed for the calculations are shown in Table 1. The drilling fluid was assumed to have a mud weight of 11 lb. /gal, yield point of 25 lb. /100ft<sup>2</sup>, and plastic viscosity of 100 centipoise.

We have assumed that the pipes will be empty as they enter the bore during installation. For plastic pipe it is desirable, and sometimes necessary, for the pipe to be full of water during pullback to reduce the buoyant uplift forces, thereby reducing the friction between the pipe and the borehole. The water also helps to resist the external hydrostatic pressure from the drilling fluid which could lead to an unconstrained buckling failure of the pipe. We have run the analysis with the pipes empty to produce a conservative result. If the HDD option is carried forward to design, a more thorough analysis can be performed that may allow for slightly thinner pipe wall to be used. We have also assumed that the pipe will be supported by rollers and/or cranes during installation.

**Table 1 - Assumed Pipe Input Parameter Values for Pipe Stress and Pullback Calculations**

	HDPE 18" IPS	FPVC 14" DIPS
OD	18.0"	15.3"
ID	13.76"	13.5"
Bore Diameter	27"	24"
DR	9	18
Pipe Weight	43.8 lb/ft	25.0 lb/ft
Modulus of Elasticity	63,000 psi	400,000 psi
Yield Strength	3,200 psi	7,000 psi
Poisson's Ratio	0.45	0.38
Allowable Tensile Strength	1,150 psi (12 hour load duration)	2,800 psi

The results of the pullback load analyses are summarized in Table 2. Observations from previous projects indicate that startup loads can be higher than steady state loads. To account for this we have applied a factor of 1.25 to the steady state pull loads to account for static friction and gelling of the drilling fluid that can be observed when resuming after pull stoppages.

**Table 2 - Pullback Load Analysis for HDD Installation (Startup Loads, 1.25x Steady State)**

Location	Startup Loads for HDPE Pipe (pounds)	Startup Loads for FPVC Pipe (pounds)
Entry Point	9,800	5,600
End of Straight Tangent/Beginning of First Vertical Curve	21,650	17,000
End of First Vertical Curve/Beginning of Horizontal Section	41,300	29,000
End of Horizontal Section/Beginning of Second Vertical Curve	52,000	40,200
End of Second Vertical Curve/Beginning of Straight Tangent	63,400	48,100
Exit Point	63,900	49,400
Maximum Allowable Pull Load (FS = 2.5)	115,600	108,000

For both pipe analysis cases, stresses resulting from the pullback force, and additional tensile stress resulting from the pipe bending through the vertical curves, were analyzed at potentially critical points along the bore and compared to the recommended allowable stress. The results of the pullback force and pipe stress analyses are summarized in Tables 3 and 4. The safe pull stress values for HDPE and FPVC pipe incorporate a manufacturer-recommended factor of safety of 2.5. Therefore, if the ratio of the combined calculated stress to the safe pull stress is equal to or less than 1.0 it is considered an acceptable level of stress. The most critical combined stress location in the bore typically occurs at the end of the exit side vertical curve.

Additionally, unconstrained buckling stresses resulting from the heavy drilling fluid outside the pipes have been compared against the critical buckling stress of the pipe to determine the risk of buckling failure. For the buckling analysis, the ASTM design standard recommends a minimum factor of safety of 2 as the safe limit.

<b>Table 3 - Pipe Stress/Buckling Analyses for HDD Installation of HDPE Pipe Using Startup Loads</b>		
<b>18-inch OD DR 9</b>		
	<b>Combined Stress Ratio</b>	<b>Installation Buckling Stress Factor of Safety</b>
<b>Entry Point</b>	0.08	-
<b>End of Straight Tangent/Beginning of First Vertical Curve</b>	0.19	5.8
<b>End of First Vertical Curve/Beginning of Horizontal Section</b>	0.40	3.3
<b>End of Horizontal Section/Beginning of Second Vertical Curve</b>	0.45	3.3
<b>End of Second Vertical Curve/Beginning of Straight Tangent</b>	0.59	5.0
<b>Exit Point</b>	0.55	-

<b>Table 4 - Pipe Stress/Buckling Analyses for HDD Installation of FPVC Pipe Using Startup Loads</b>		
<b>15.3-inch OD DR 18</b>		
	<b>Combined Stress Ratio</b>	<b>Installation Buckling Stress Factor of Safety</b>
<b>Entry Point</b>	0.05	-
<b>End of Straight Tangent/Beginning of First Vertical Curve</b>	0.16	3.3
<b>End of First Vertical Curve/Beginning of Horizontal Section</b>	0.38	2.2
<b>End of Horizontal Section/Beginning of Second Vertical Curve</b>	0.37	2.2
<b>End of Second Vertical Curve/Beginning of Straight Tangent</b>	0.56	2.8
<b>Exit Point</b>	0.46	-

The results of our pullback analysis indicate that the anticipated loads required and the stresses imposed during the HDD installation will require the use of either 18-inch OD DR 9 IPS HDPE pipe, or 14-inch nominal (15.3" OD) DR 18 DIPS FPVC pipe.

## 7. Hydrofracture Analysis

Hydrofracture, or inadvertent drilling fluid returns, to the ground surface is a serious concern for any HDD crossing. A preliminary analysis of the hydrofracture risks for this project has been performed, as detailed below.

The hydrofracture calculations are based on the Delft Cavity Expansion Model, (Bennett and Wallin, 2008, Staheli, et. al., 1998; Delft Geotechnics, 1997; Luger and Hergarden, 1988). The cavity expansion model provides a rational method to calculate the maximum allowable drilling fluid pressure that the soil can withstand before plastic yield or hydrofracture occurs, at any point along a bore. The maximum allowable pressure is the safe upper bound value of allowable drilling fluid pressures for the HDD bore, and is dependent on depth of earth cover and the soil characteristics. The calculations assume homogeneous soil properties within each layer, and do not take into account pre-existing preferential seepage paths to the ground surface.

The minimum required pressure to return the soil cuttings back to the surface was evaluated using the Bingham Plastic Model and assuming laminar flow conditions. The laminar flow approach generates a conservative result since the conditions will more likely be a combination of laminar and turbulent flow. The minimum required pressure is dependent on the length, depth, and diameter of the bore, as well as the drilling fluid properties. We have assumed good drilling practices by the Contractor in our selection of drilling fluid properties.

Locations where the minimum required pressure exceeds the maximum allowable pressure have elevated risk of hydrofracture. The risk of hydrofracture was only analyzed for the drilling of the pilot bore because this step of the HDD process has the highest risk of hydrofracture due to the small diameter of the bore and the relatively large diameter of the drill pipe, as well as the single flow path available for drilling fluid returns.

The results when using this method for analyzing hydrofracture risk are primarily dependent on the geotechnical conditions and the bore geometry. Representative average geotechnical parameter values were selected based on review of geotechnical borings provided by Crawford & Associates (December 2015). The engineering properties of the alluvial terrace deposits and the residual soil were similar enough to model them as one layer. The fresh, hard bedrock will likely exhibit sufficient strength to resist any reasonable fluid pressure from the HDD operation. Therefore, to obtain a conservative result, the ground conditions for the bore were modeled as a two layer system consisting of stiff to very stiff sandy lean clay with gravel overlying weathered, soft meta-argillite bedrock. The soil parameters used in the analysis are shown in Table 5 below. Groundwater was assumed to be at the river elevation of 35 feet. The results of the evaluation of hydrofracture risk for the proposed geometry of the pilot bore are shown in Figure 8.



<b>Table 5 – Soil and Rock Properties Used in Hydrofracture Analysis</b>		
	<b>Stiff to Very Stiff Sandy Clay with Gravel</b>	<b>Weathered, Soft Meta-Argillite Bedrock</b>
<b>Cohesion (c)</b>	1,000 psf	5,000 psf
<b>Soil Friction Angle (<math>\phi</math>)</b>	0	0
<b>Shear Modulus (G)</b>	60,000 psf	200,000 psf
<b>Soil Unit Weight (<math>\gamma</math>)</b>	125 pcf	135 pcf

Figure 8 is a plot of the ground surface and bore profile in feet of elevation, (right hand y-axis) and the maximum allowable pressure and minimum required pressure in psi (left hand y-axis), against horizontal stationing on the x-axis. The maximum allowable pressure that the soil can withstand before plastic yield (fracturing) occurs increases with increasing depth of cover. The lowest allowable pressures are seen near the entry and exit points and under low points, such as the bottom of the river. The minimum required pressure to return the drilling fluid to the entry point increases as the distance from the entry point increases and as the depth of the bore increases. Critical locations, where risk of hydrofracture is elevated, occur where the minimum required drilling fluid pressure ( $P_{min}$ ) exceeds the maximum allowable pressure ( $P_{max}$ ).

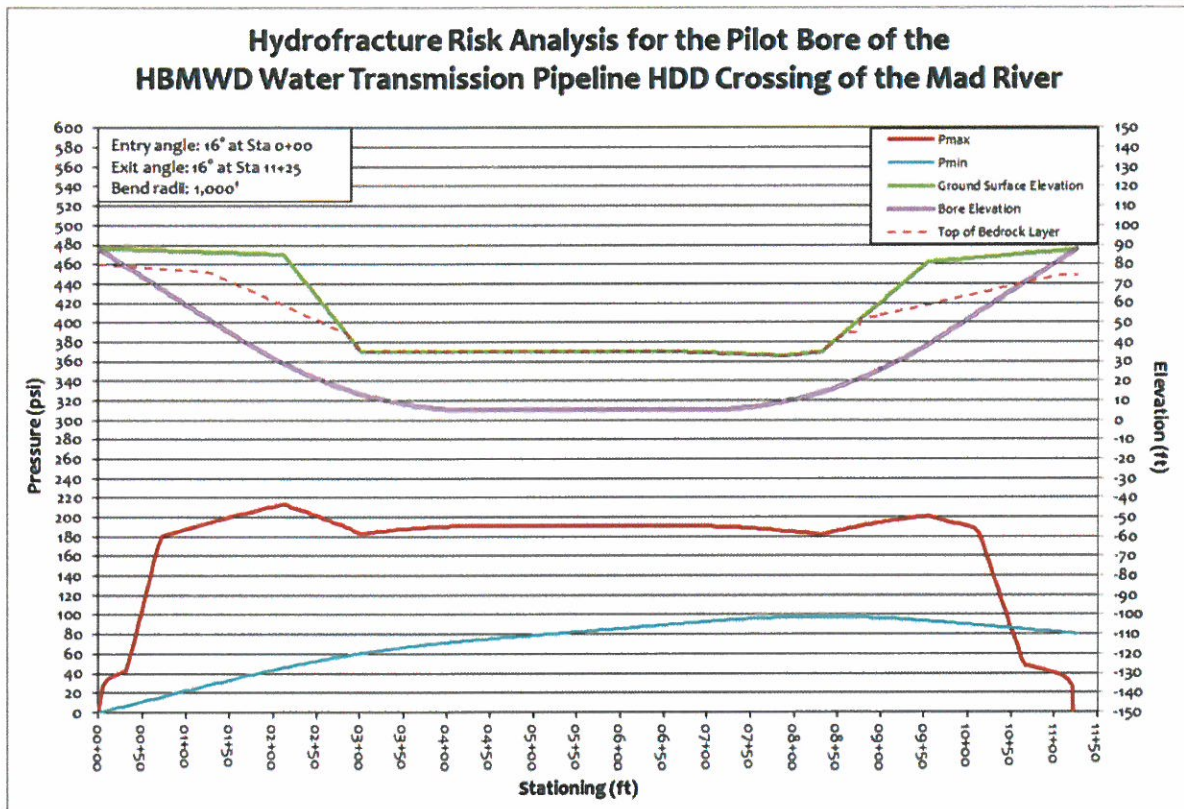


Figure 8: Evaluation of Hydrofracture Risks - Comparison of Maximum Allowable and Minimum Required Drilling Fluid Pressures for the Pilot Bore of the Mad River Crossing

The most important result shown in Figure 8 is that the risk of hydrofracture is low for the majority of the crossing length. Because the depth of cover decreases toward the exit point, there is an elevated risk of hydrofracture shortly before the exit point, starting at approximate

Station 10+40. This risk is typical for all HDD bores and can be mitigated through common measures including specifying that the drilling contractor have tools and equipment on-site for rapid containment and clean-up of any inadvertent fluid returns. Typically a detailed Surface Spill and Hydrofracture Contingency Plan will be developed for the project that describes the planned response in the event of an inadvertent drilling fluid return.

It is important to note that the actual risk of hydrofracture during construction is dependent on contractor means and methods and actual ground conditions along and above the bore. The results of these analyses are applicable to HDD work performed using industry good practices and within the parameters assumed in the analysis.

## 8. Construction Cost and Schedule Considerations

A preliminary design-level cost and schedule estimate has been prepared for the HDD alternative for the Mad River crossing using the pipe material and diameter configurations discussed in the previous sections. The cost and schedule estimates are based on historic bids for similar projects and our own experience with previous HDD projects. The work items covered in the estimates include: mobilization and setup of the HDD drilling equipment; completion of the pilot bore and reaming to final bore diameter; delivery, fabrication, and testing of the product pipes; installation of the product pipe; grouting both ends of the bore; and demobilization of the drilling equipment. The cost and schedule estimates do not include preparation of the work area on the west side of the crossing. The cost and schedule estimates also do not include tie-ins of the trenchless pipe to open cut sections, installation of any valves or other appurtenances, or site restoration. The costs presented include a 30% markup for contractor overhead, profit, insurance, bonds, and escalation, as well as a 30% preliminary design-level contingency. Table 6 presents the estimated cost and duration for the conceptual alignment. The costs include the HDPE or FPVC pipe material and fusion of the pipe. Construction durations are based on 10-hour shifts, worked six days per week.

<b>Carrier Pipe</b>	18" OD DR 9 IPS HDPE
<b>Bore Length</b>	1,125'
<b>Bore Diameter</b>	27"
<b>Total Raw Cost</b>	\$744,000
<b>Bid Cost with 30% Contractor Markups†</b>	\$967,000
<b>Planning Cost with 30% Design Contingency</b>	\$1,257,000
<b>Cost per Foot</b>	~ \$1,100/ft
<b>Estimated Construction Duration</b>	36 shifts
* Estimates do not include costs and durations for tie-ins, valves, and surface restoration.	
† Costs include 30% additional for taxes, markups, overhead, profit, insurance, bond, escalation.	

## 9. Recommended Trenchless Design

- After review of the project criteria and the preliminary geotechnical report, a field inspection of the site conditions, and both hydrofracture and pipe stress analyses, we find that horizontal directional drilling (HDD) is a feasible trenchless construction alternative for completing a replacement of the HBMWD BLFG CSD Water Transmission Pipeline crossing of the Mad River. Alternative trenchless methods such as auger boring, pipe ramming, open-shield pipejacking, and microtunneling are either not technically feasible, or are not cost-competitive for this project.
- We recommend a bore alignment that extends from a point approximately 600 feet north of the intersection of Warren Creek Road and Burlwood Lane, and 90 feet east of the road, to the northwestern corner of GR Sundberg's equipment yard, approximately 450 feet southeast of the intersection of Glendale Drive and Fieldbrook Road, as shown in Figure 4 of this report.
- We recommend a bore profile of approximately 1,125 feet in length, with a minimum of 20 feet of vertical earth cover at all points along the bore, as shown in Figure 5 of this report. The conceptual bore profile reaches a minimum elevation of 5 feet.
- We recommend that the bore be advanced from west to east, with the entry point and drill rig located off of Warren Creek Road (see Figure 6), and pipe fabrication and layout located along the north boundary of GR Sundberg's equipment yard (Figure 7). If obtaining temporary construction easement from GR Sundberg were unfavorable, it would likely be feasible to lay out the pipe along the south shoulder of Glendale Drive. It would also be feasible to reverse the bore direction and drill from east to west.
- An HDD crossing will require clearing undergrowth and some mature trees in the forested area on the west side of the river to allow for either rig setup or pipe fabrication. An area of approximately 3,500 to 4,000 square feet would need to be completely cleared of trees and brush. An additional 5,000 to 6,000 square feet would need to be cleared of undergrowth and small trees, but mature trees could be retained.
- The results of pipe stress analyses indicate that a replacement pipeline installed by HDD could be completed with either 18-inch OD IPS DR 9 HDPE pipe or 14-inch nominal (15.3" OD) DIPS DR 18 FPVC pipe.
- The results of a hydrofracture risk analysis indicate that there is a low probability of hydrofracture for the majority of the conceptual bore. It is likely that drilling fluid will come to the surface over the last 75 feet of the bore alignment near the exit point. This is typical for most HDD crossings and can be handled with simple containment measures.
- We estimate that the HDD crossing of the Mad River, as described in this report, would cost approximately \$1.26M (~ \$1,100/ft) to construct and would take approximately 36 working days to complete. These construction cost and duration estimates include all HDD operations to advance the bore, and to install and test the pipeline crossing

beneath the river. They do not include preparation of the forested site on the west side of the river or any tie-in work to the existing water line after HDD installation is complete.

- If the HDD alternative were selected as the preferred method for completing the Mad River pipeline replacement, we recommend that further survey and geotechnical work be conducted. Survey data would need to be obtained covering the bore alignment and planned work areas. The survey should also include detailed data on mature trees on the west side of the river so that the HDD work area could be developed to minimize the removal of mature trees. The final geotechnical investigation should include at least one boring on each side of the river, including coring of the bedrock to at least elevation 0 feet. Additionally, the design team should consider using geophysical methods to investigate the bedrock contact elevation across the river channel to mitigate the risk of encountering a deep historic river channel infilled with gravel and cobbles.

## 10. References

Handbook of Polyethylene Pipe, Second Edition. Irving, TX: The Plastics Pipe Institute, 2008.

Ariaratnam, Samuel T., Stauber, Richard M., Bell, Jason, Harbin, Bruce C., Canon, Frank, 2003. "Predicting and Controlling Hydraulic Fracturing During Horizontal Directional Drilling" American Society of Civil Engineers Conference Proceeding Paper, New Pipeline Technologies, Security, and Safety.

Bennett, R.D., and Wallin, K., 2008. "Step by Step Evaluation of Hydrofracture Risks for HDD Projects". North American Society for Trenchless Technology, NoDig Conference.

Crawford & Associates, Inc., December 2015. "Preliminary Geotechnical Report – Humboldt Bay Municipal Water District, Water Transmission Pipeline Replacement Over Mad River, Blue Lake and Fieldbrook-Glendale Community Services District, Humboldt County, California".

Delft Geotechnics, (1997). "A Report by Department of Foundations and Underground Engineering Prepared for O'Donnell Associates of Sugarland, TX."

Duyvestyn, Glenn, 2009. "Comparison of Predicted and Observed HDD Installation Loads for Various Calculation Methods". North American Society and International Society for Trenchless Technology, NoDig Conference.

J.D. Hair & Associates, Louis J. Capozzoli & Associates, and Stress Engineering Services 1995. "Installation of Pipelines by Horizontal Directional Drilling, An Engineering Design Guide", prepared for the Offshore and Onshore Design Applications Supervisory Committee of the Pipeline Research Committee at the American Gas Association.

Luger, H.J., and Hergarden H.J.A.M., 1988. "Directional Drilling in Soft Soil: Influence of Mud Pressures", International Society of Trenchless Technology, NoDig Conference.



Ref: 11109045

January 15, 2016

Mr. Paul Helliker, General Manager  
Humboldt Bay Municipal Water District  
828 Seventh Street  
Eureka, CA 95501

**Re: R.W. Matthews Dam Settlement, West Abutment Landslide, and Spillway  
Wingwall Monitoring Surveys, September 17-18, 2015**

Dear Paul,

Attached, please find eight (8) hard copies and two (2) CD's with electronic copies of the Points West survey report referenced above, detailing the survey results for the Matthews Dam Crest, the West Abutment Landslide, as well as the Spillway Wingwalls for the R.W. Matthews Dam, Ruth, California. The attached report was reviewed by me, my comments were incorporated by Points West, and the final report is attached along with hard and electronic copies of the supporting Excel graphs of the various survey points over time.

As the report details, the District has established on-going monitoring surveys of three general areas of Matthews Dam: 1) a Settlement Survey that has been conducted since 1962 and measures the amount of settlement of 17 points located mainly along the crest of the dam; 2) a West Abutment Landslide Survey begun in 1998 that measures the change in horizontal and vertical positions of eight points located along the toe of the surficial landslide located upslope of the west abutment of the dam; and 3) the Spillway Wingwall Survey begun in 2010 that measures the change in horizontal position of 14 points located along the top of the spillway walls, and the vertical positions of 14 other points located on the spillway floor. All of these surveys are performed every other year, generally at the same time, and are used to monitor the stability of the dam. The survey was performed again in September of 2015, and in summary, there are no noticeable changes in any of these points that are of concern. The report and this letter provide additional detail about each of the surveys.

The report contains a detailed description of the methodology used and the results for the Settlement survey of the dam crest, the toe of the landslide at the West Abutment, and the spillway walls. The conclusion of the report, which our review of the data confirms, is: *No appreciable movement has been observed in the monitoring stations, beyond the limits of our measurements, during the reporting period between 2013 and 2015 as evidenced by the data shown in the Appendices.*

There was considerable discussion in the 2013 Survey Results letter from me about the apparent minor elevation change outside the range of error for points 31 and 34-37, which measure the toe of the shallow seated landslide on the west abutment. The surficial landslide on the west abutment was active during the 2012-2013 winter season, which likely contributed to minor movement of these points. Again, as originally reviewed and discussed in the "Landslide Investigation-R.W. Matthews Dam" prepared in April 1998 by R.L. Volpe & Associates, Inc.

Mr. Paul Helliker  
January 15, 2016  
Page 2

(Volpe 1998) and confirmed several time since, the surficial nature of this slide does not appear to jeopardize the dam. Be that as it may, the historical survey data for points 31 and 34-37, was reviewed in detail, and ultimately found not to be of concern. As is evident in the recent survey data for these same points and as detailed in the attached graphs, all of these points had very slight movement since 2013, all within the range of error for this survey, reconfirming that this slide does not appear to pose a hazard to the dam at this time.

The only other trend of note is the continued downward trend (i.e. settlement) of Points 12010 through 12013 at the North (downstream) end of the spillway. The greatest amount of settlement occurred at Point 12013, the point furthest North at the base of the left spillway wall, and this point only shows a settlement of 0.023-feet (0.276-inches) since 2010. The north end of the spillway is the most susceptible to undercutting and movement. The observed movement (1/4-inch over 5 years) is not of concern at this point, but of course warrants continued monitoring.

This is the second monitoring event where we can make comparisons for the movement of the top of the spillway walls. This year we have created two charts, one displaying the horizontal movement of the left spillway wall points, and a second chart comparing the movement of the right spillway wall points, both as compared to the 2013 data. The comparison of the 2011 and 2013 data showed the top of the walls moving very slightly to the North and East (greatest movement of 0.024-feet (0.288-inches) of Point 14005 to the north). This year's comparison show the walls moving vary slightly to the East and South (largest movement 0.014-feet (0.168-inches) to the East for Point 14013). All of these recorded movements are within the margin of error for the survey and are not of concern.

The Points West report also recommended: *The primary benchmark, the top of a painted rock on westerly abutment labeled "AB Rock" is within the slide area being monitored. This rock is of unknown size and stability. It could possibly be disturbed by grading activities in the pullout or other road maintenance activities. It is recommended that a permanent vertical benchmark monument be set outside the slide monitoring area which could be used for future vertical control. If true elevations are necessary for any reason, an elevation on NAVD88 or NAVD29 datum should be brought to the site from a published NGS benchmark.* This has been an ongoing recommendation from Points West, and their point is a valid one. There has been no observed movement/settlement of the AB Rock Benchmark overtime, but its location in the turnout could indeed expose it to potential damage. If a new benchmark is establish, it would be prudent to locate it outside the slide monitoring zone and tie it to an established vertical datum. I have requested that Points West locate the nearest vertical control point that is on a known datum and provide a cost estimate to translate this datum closer to the Dam site and establish a new vertical control. Once we obtain Points West cost estimate, we can decide whether to budget for and perform this work or not.

The Points West report further recommends that care should be taken to protect the existing monitoring points and that any point that could be damage during paving or other activities be referenced to allow them to be re-established after the performance of the activity. This is a

Mr. Paul Helliker  
January 15, 2016  
Page 3

SECTION J1C, PAGE NO. 3

prudent practice, and although no such activities that may impact these points are schedule for the near future, it is a good reminder to take this into consideration for future projects.

As usual, copies of this and the attached reports and plots should be provided along with this year's Dam Safety Surveillance and Monitoring Report (DSSMR) to the Federal Energy Regulatory Commission.

We appreciate the opportunity to assist you on this project. Please do not hesitate to call me if you have any questions.

Sincerely,  
GHD Inc.



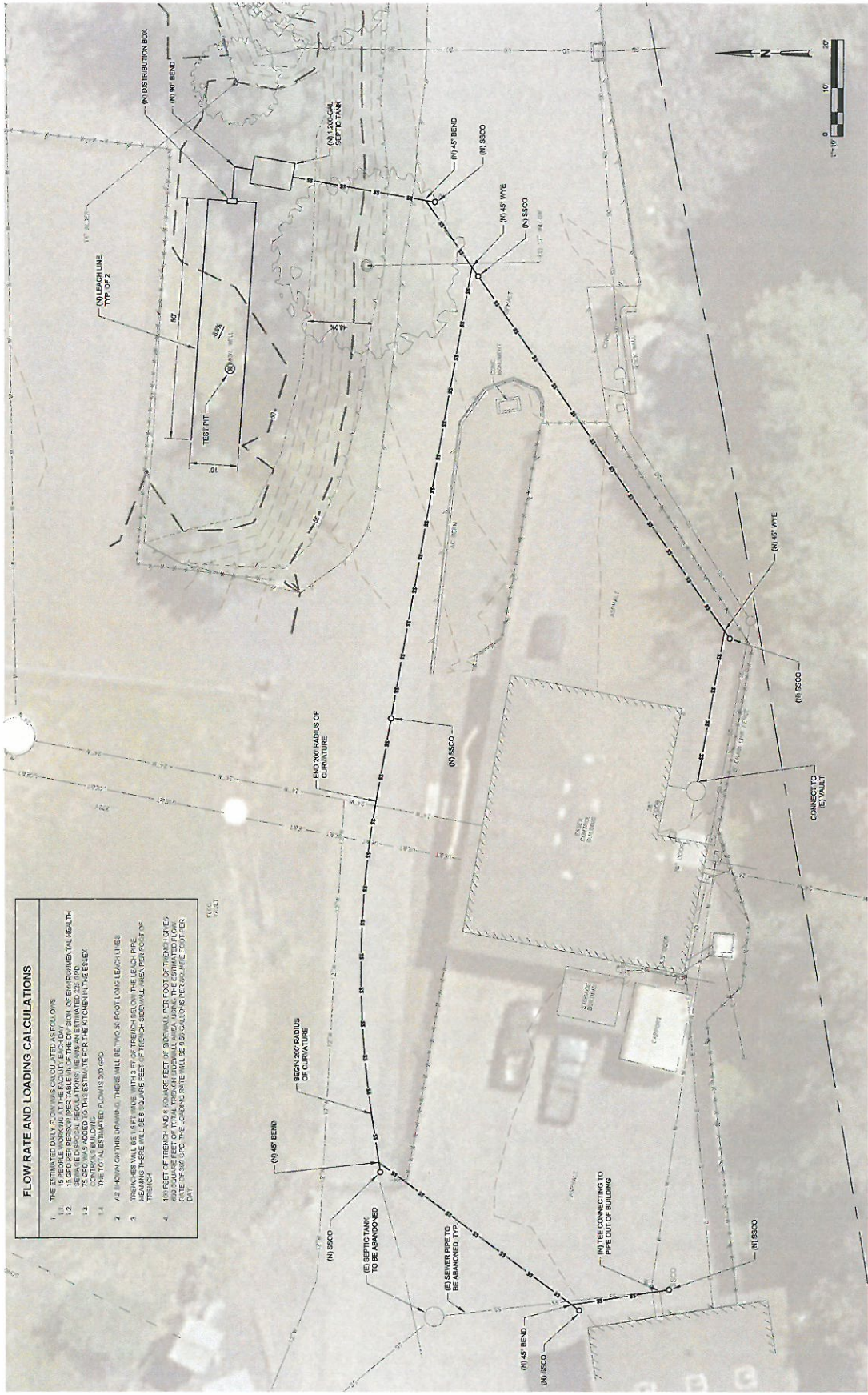
Patrick Kaspari, P.E.  
District Engineer

Enclosures:

1. R.W. Matthews Dam Settlement, Slide, and Wingwall Monitoring Survey, Points West Surveying Co, September 17-18, 2015, 8 copies
2. Elevation vs Time Plots for Dam Crest Survey Points 2-5, 7, 8, 13-15, 17-21, Steve's Monument, and Point 91, 8 copies
3. Elevation vs Time Plots for the West Abutment Land Slide Survey Points 31-37, 8 copies
4. Elevation vs Time Plots for the Spillway Wingwall Survey Points 12000-12013, 8 copies
5. Horizontal Difference for the Spillway Wingwall Survey Points 14000-14013 from 2013 to 2015, 8 copies
6. CD with electronic files of all of the above, 2 copies



PRELIMINARY



**FLOW RATE AND LOADING CALCULATIONS**

1. THE ESTIMATED ONLY FLOW WAS CALCULATED AS FOLLOWS

1.1 15 PEOPLE WORKING AT THE FACILITY EACH DAY

1.2 15 PEOPLE WORKING AT THE FACILITY EACH DAY

1.3 75 GPD WAS ADDED TO THIS ESTIMATE FOR THE WATERSHED IN THE AREA

1.4 THE TOTAL ESTIMATED FLOW IS 300 GPD

2. AS SHOWN ON THE PLAN, THERE WILL BE TWO 35 FOOT LONG LEACH LINES

3. THE DESIGN FLOW IS 300 GPD OR 1.5 GPM PER LEACH LINE

4. 100 FEET OF TRENCH AND 4 SQUARE FEET OF SURFACE PER FOOT OF TRENCH LINES AND SQUARE FEET OF TOTAL TRENCH SURFACE AREA USING THE ESTIMATED FLOW AND SQUARE FEET OF TRENCH SURFACE AREA WILL BE 350 SQUARE FEET PER SQUARE FOOT OF TRENCH

<p>Client: Humboldt Bay Municipal Water District</p> <p>Project: Essex Septic System</p> <p>Title: Plot Plan (2 of 2)</p> <p>Contract No: 5411955</p> <p>Drawn: [Blank] Date: [Blank]</p> <p>Scale: As Shown</p>		<p>Sheet: 2 of 2</p> <p>Rev: A</p>
<p>Design: [Blank]</p> <p>Checked: [Blank]</p> <p>Approved: [Blank]</p> <p>Date: July 23, 2015</p>	<p>Project: [Blank]</p> <p>Client: [Blank]</p> <p>Contract: [Blank]</p> <p>Scale: [Blank]</p>	<p>Sheet: 2 of 2</p> <p>Rev: A</p>
<p>GHD Inc. 718 West Street, Suite 100, Astoria, OR 97103</p> <p>Phone: (503) 325-4444</p> <p>Website: www.ghd.com</p>		
<p>Revised Documents: [Blank]</p> <p>Notes: [Blank]</p>		
<p>Drawn: [Blank]</p> <p>Checked: [Blank]</p> <p>Approved: [Blank]</p> <p>Date: [Blank]</p>	<p>Project: [Blank]</p> <p>Client: [Blank]</p> <p>Contract: [Blank]</p> <p>Scale: [Blank]</p>	<p>Sheet: 2 of 2</p> <p>Rev: A</p>



February 2, 2016

Ryan Chairez, Maintenance Supervisor  
Humboldt Bay Municipal Water District  
828 Seventh Street  
Eureka, CA 95501

RE: One Million Gallon Reservoir Structural Inspection – Corrosion Review

Dear Mr. Chairez,

As per your request and our Agreement No. 54-9, we are pleased to provide you with this report on our recent inspection of the one million gallon domestic water reservoir at Korblex. This report serves as a focused engineering study to provide necessary information for maintenance and repair of the District's infrastructure and to provide input to the District's Capital Improvement Plan. This is a follow up review focusing on corrosion issues that were first observed during the August 5<sup>th</sup>, 2015, inspection, and discussed in our September 17<sup>th</sup>, 2015 report. Discussion and recommendations in the September report remain valid, and it has been attached for reference. As a correction to the September report, which noted that thirty-one radial, 12 inch deep channels support the roof, there are in fact thirty-three, 9 inch deep channel rafters spanning from tank perimeter wall to the center post.

A follow up inspection was performed January 14<sup>th</sup>, 2016 to focus on corrosion and take steel thickness measurements at visibly severe corrosion locations around the roof of the tank. The water level inside the reservoir at the time of inspection was about 3 feet below the roof at the perimeter of the tank. The interior of the tank above the filled water level was inspected by raft. A HBMWD employee participated in the inspection and worked to clean identified areas of corrosion so that remaining base material thickness could be measured. A total of 12 individual corroded areas were closely inspected along the roof rafter channels. Measurements were taken for top and bottom flange thickness, flange width, rod bracing diameter, and center column rafter bearing plate thickness. Following is a summary of measurements taken and material loss observed:

- Channel bottom flange tip thickness: 4 of 8 locations showed reduction in material thickness between 15% to 50%. 4 of 8 locations showed a reduction in thickness between 0% to 10%.
- Channel bottom flange width: 3 locations showed a reduction in width between 5% to 10%.
- Channel top flange tip thickness: 1 of 2 locations showed a loss of material thickness of 30%. 1 of 2 locations showed a loss of material thickness of 10%.
- Rod bracing: 1 location showed a reduction in rod diameter of 5%.
- Center column bearing plate: 1 location showed a reduction in material thickness of 14%.

These measurements show that while corrosion is visible in numerous locations throughout the roof system, the current material loss varies. This is to be expected. Steel corrosion results in a large expansion of a thin top layer of rusted material, quickly causing paint delamination and visible rust



staining, while underlying material might be experiencing only small losses. At the locations in the tank where the greatest material loss was measured, the remaining steel is maintaining enough strength to continue to support the steel plate roof, although the remaining section is being pushed to the allowable stress limits. As such, in locations exhibiting a material thickness loss in excess of 15%, a repair should be made to increase section strength back to original design levels.

As discussed in the September report, the current corrosion indicates the tank has reached a critical point in its service life and needs to be addressed soon. Continued corrosion will eventually result in a failure of the roof system. One option involves cleaning off the existing paint, making localized repairs to the roof rafters, and repainting the inside and outside of the tank. This option is estimated to cost approximately \$250,000. The other option is a replacement of the roof system and repainting the inside and outside of the tank. This option is estimated to cost approximately \$500,000.

The repainting option poses an issue in that a relatively quick return of corrosion is to be anticipated. Approximately 50% of the top flange area of the rafters currently shows signs of some corrosion. Accessing the top flange of the channel to both clean off existing paint and corrosion, and then adequately repainting the top flange and the roof plate above will be difficult. It is in these locations that corrosion would be anticipated to return first. Achieving an additional 10 years of service life out of the roof structure is approximately what can be expected before additional cleaning/repainting or replacement of the roof is required. The roof replacement and repainting can be expected to last 20+ years.

If the repainting option is pursued, a structural engineer will need to be onsite after the paint removal to identify specific locations for rafter repair. Repairs are anticipated to involve welding approximately 12 inch long pieces of flat steel bars, or angles, onto the channels where corrosion has reduced material thickness below allowable thresholds. Approximately 30 repairs are anticipated. To most adequately clean and repaint the top flanges of the channels, temporarily shoring up the plate roof (which is not rigidly attached to the rafters) would be optimal.

Thank you for the opportunity to assist you with this project. Should you have any questions regarding our findings please do not hesitate to contact us.

Sincerely,  
GHD Inc.

A handwritten signature in black ink that reads "Brian Crowell".

Brian Crowell, SE

Senior Structural Engineer

707-443-8326

CC: Paul Helliker, Dale Davidsen, and John Friedenbach, HBMWWD,  
Pat Kaspari, GHD



REFERENCE PHOTOS – JANUARY 2016 INSPECTION



Photo 1 – Material Loss at Channel Bottom Flange



Photo 2 – Material Loss at Channel Bottom Flange



September 17, 2015

Ryan Chairez, Maintenance Supervisor  
Humboldt Bay Municipal Water District  
828 Seventh Street  
Eureka, CA 95501

RE: One Million Gallon Reservoir Structural Inspection

Dear Mr. Chairez,

As per your request and our Agreement No. 54-9, we are pleased to provide you with this report on our inspection of the one million gallon domestic water reservoir at Korblex. This report serves as a focused engineering study to provide necessary information for maintenance and repair of the District's infrastructure and to provide input to the District's Infrastructure and Capital Improvement Plan. Our inspection was performed on August 5<sup>th</sup>, 2015. In attendance were Brian Crowell (GHD) and Ryan Chairez (HBMWD), as well as other HBMWD personnel for implementation of confined space entry protocol and safety measures.

The exterior of the tank appeared to be in good condition (reference Photo 1). The exterior of the steel plate roof has a newer coat of epoxy paint and it appears to be in good condition with little evidence of rust. The water level inside the reservoir at the time of inspection was about 3 feet below the roof at the perimeter of the tank. The interior of the tank above the filled water level was inspected by raft. Thirty-one radial, 12 inch deep steel channel roof rafters span from the edge wall to the center post of the tank, supporting the steel plate roof (reference Photo 2). The roof is not positively attached to the channels.

The interior of the tank above the water level shows significant areas of rust damage, staining, paint blistering and paint failure. Approximately 75% of the perimeter air vents showed pockets of paint failure and steel corrosion (reference Photo 3). On each roof rafter channel, at the interface between the rafter and the plate roof, between 25% to 75% of the edge of each channel shows evidence of rust and paint scaling (reference Photo 4). At the bottom flange of the channels between 25% to 50% of the edge of each channel shows evidence of rust and paint scaling (reference Photo 5). In some locations along the bottom flanges of the rafters the corrosion is severe enough to cause flaking of the base steel on a magnitude that reduces the original design thickness of the steel. Measuring the actual material thickness loss with a calliper or other device was not possible as falling pieces of the flaking steel posed a puncture risk to the inflatable raft. Based on visual observation, it appeared that in some isolated worst cases the material loss has progressed approximately 1/2 inch from the toe of the flange. At the center of the tank a steel plate ring is located at the top of the center pipe column, providing bearing support for all the roof rafter channels (reference Photos 2 & 6). This plate shows significant paint failure, on the order of 50%. At the edges of the plate, where paint has failed, the steel is rusting and flaking. Painted rod



bracing between rafters also showed significant paint and corrosion damage (reference Photo 7). Blistering paint and rust was also observed at the top of the overflow drain (reference Photo 8).

Existing warping of the rafter channels was observed, as was similarly observed during a 2008 structural inspection performed by Stephen Peacock (GHD) (reference inspection letter dated 02/08/08). The warping of the rafters is likely due to a combination of factors including the semi-restrained top flange of the channel at the roof bearing surface, and thermal expansion and contraction of the roof and rafters. The warping does not appear to be causing any torsional buckling failure of the rafters.

The current interior paint and corrosion issues are in stark contrast to what was observed during the 2008 inspection performed by Mr. Peacock, where more limited paint and corrosion issues were observed. It appears that the condition paint has reached a critical point in its service life, and needs to be addressed soon. Continued corrosion will impact the structural integrity of the roof system, and therefore must be halted. One option would be to consult with a painting contractor to evaluate the means and methods of effective paint and corrosion removal, and repainting. Upon completion of paint and corrosion removal, a structural review prior to repainting is recommended, so that the condition of the steel elements could be observed and strengthening recommendations made, if needed, in weakened locations. Existing corroded rod bridging/bracing will need to be replaced.

Given the current level of corrosion, it is possible that cleaning and repainting is not cost effective and/or may only provide a relatively short term solution before the return of corrosion. A main concern with just painting is that it is unclear how many of the "hidden" portions of the roof system (such as the area between the roof plating and top flange of channel rafters) could be adequately cleaned and coated sufficiently to prevent continued rusting. Therefore the option of replacing the roof should be considered. A water tank manufacturer should be consulted for roof options and cost estimates.

The apparent acceleration of paint and corrosion issues between the 2008 structural inspection and this current inspection are concerning. It is recommended that they begin to be addressed within the next year and the selected remedy (painting or replacement) be budgeted for in this upcoming fiscal year. Should maintenance or replacement scheduling extend beyond a year, a follow-up structural inspection should be performed no later than August 2016 to evaluate the condition of the roof, including possible acceleration in the detrimental conditions and to check for signs of structural weakening.

Thank you for the opportunity to assist you with this project. Should you have any questions regarding our findings please do not hesitate to contact us.

Sincerely,  
GHD Inc.

A handwritten signature in black ink that reads "Brian Crowell".

Brian Crowell, SE

Senior Structural Engineer

707-443-8326



REFERENCE PHOTOS – AUGUST 2015 INSPECTION



Photo 1 – Tank Exterior

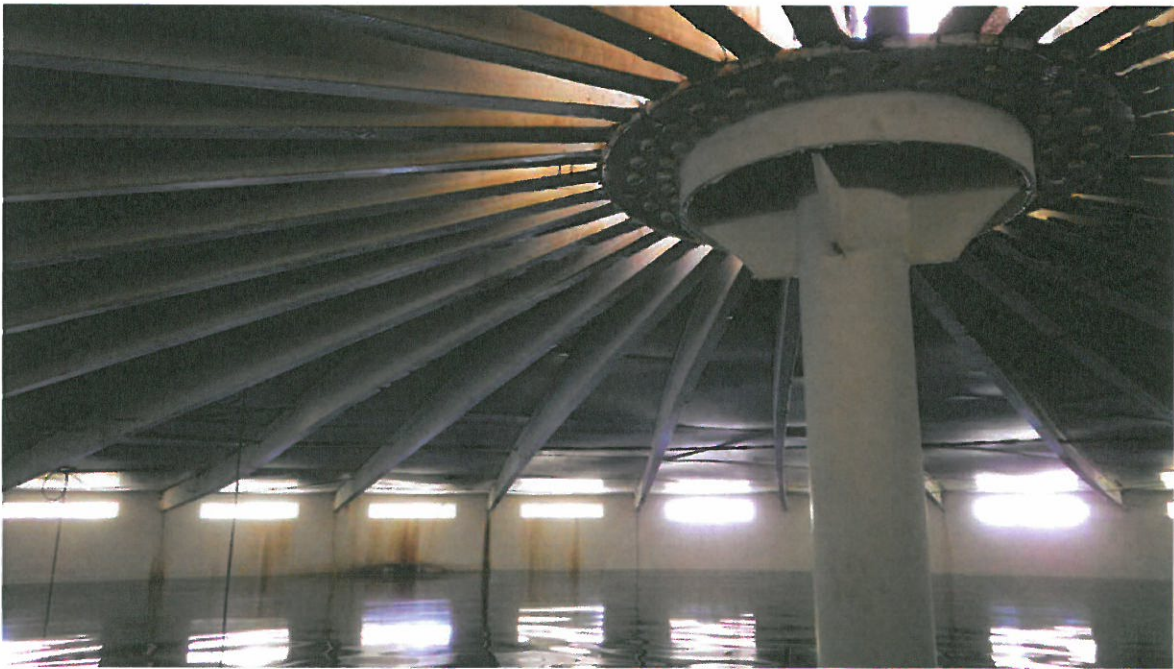


Photo 2 – Tank Interior / Center Column Support



Photo 3 – Typical Air Vent at Interior Side



Photo 4 – Typical Channel Rafter at Perimeter





Photo 5 – Interior Channel Bottom Flange Corrosion



Photo 6 – Center Column Paint Failure & Corrosion




Photo 7 – Rafter Rod Bridging Corrosion



Photo 8 – Over-flow Drain Corrosion

**Humboldt Bay Municipal Water District**

To: Board of Directors

From: John Friedenbach 

Date: February 3, 2016

Re: NOI Acceptance by CalOES / FEMA For Surge Tower Replacement

As the Board is aware, staff actively pursues grant opportunities when they arise. One recent opportunity was the solicitation for Notice Of Intent (NOI) for Hazard Mitigation Grants as a result of the National Disaster Declaration for the fires at Ruth and throughout California last year. With the assistance of GHD, three NOI's were submitted in January:

1. Surge Tower Replacement - \$ 750,000
2. Relocation of 12 KV system - \$ 1,800,000
3. Spill Way Wall reinforcement - \$ 4,000,000

CalOES has invited the District to apply for a grant for the Surge Tower Replacement project. FEMA Hazard Mitigation Grants pay 75% of approved project costs. For the Surge Tower Replacement project, the 75% grant funding would be \$562,500, leaving a District match of \$187,500. In the past we have used GHD to prepare our hazard mitigation grant applications. Accordingly, we have asked them to provide a quote for these services. Attached is their quote in the amount of \$20,000.

The surge tower is a component of the District's Industrial Water system; however, failure of the tower could result in damage to the regional domestic water transmission line that is adjacent to the surge tower. This domestic transmission line services Humboldt Community Services District and the City of Eureka via the under-bay crossing, as well as local businesses and residents on the Samoa Peninsula.

As a point of reference, our most recent FEMA hazard mitigation grant applications prepared by GHD for the Techite and the Blue Lake / Fieldbrook Mad River Crossing were as follows:

1. Techite application 2007
  - a. Original Fee Amount: \$10,000.
  - b. Actual time: \$23,540.
  - c. Write off by GHD: \$13,540
2. Blue Lake Fieldbrook River Crossing application 2010
  - a. Original Fee Amount: \$20,000
  - b. Actual time: \$20,784
  - c. Write off by GHD: \$784
3. Blue Lake Fieldbrook River Crossing 2<sup>nd</sup> application 2011
  - a. Original Fee Amount: \$8,500
  - b. Actual time: \$11,132
  - c. Write off by GHD: \$2,632

To evaluate proposed hazard mitigation projects prior to funding, FEMA requires a Benefit-Cost Analysis (BCA) to validate cost effectiveness. BCA is the method by which the future benefits of a mitigation project are estimated and compared to its cost. The end result is a benefit-cost ratio (BCR), which is derived from a project's total net benefits divided by its total project cost. The BCR is a numerical expression of the cost effectiveness of a project. A project is considered to be cost effective when the BCR is 1.0 or greater, indicating the benefits of a prospective hazard mitigation project are sufficient to justify the costs.

The preparation of a BCA is a technical process which uses FEMA developed software. GHD has experience with the use of the software and our local demographics. It is imperative to accurately calculate a BCA in the project development process to ensure the likelihood of meeting the cost-effective eligibility requirement.

The attached GHD scope of work for preparing our Hazard Mitigation Grant application for the Surge Tower has a total fee amount of \$20,000. Given the magnitude of the recent application efforts, the amount seems reasonable to staff. However, staff recommends that a cost sharing arrangement be included in the scope whereby GHD will only bill the District 50% of the quoted fee (\$10,000) with payment of the remaining 50% of the fee contingent upon FEMA's award of the grant for the project. "Pre-Award Costs" such as professional fees for NOI and Grant Application preparation are eligible for grant reimbursement at the 75% rate.



February 2, 2015

Mr. John Friedenbach  
Humboldt Bay Municipal Water District  
P.O. Box 95  
Eureka, CA 95502-0095

Our ref: 11109030

**Re: Scope of Services for Hazard Mitigation Grant Application Submittal for the Surge Tower**

Dear John,

This Scope of Services is for the preparation of a Hazard Mitigation Grant (HMG) Application for submittal to the California Office of Emergency Services (CalOES). The District completed a Notice of Intent (NOI) for the Surge Tower Retrofit Project and submitted it to CalOES under the Disaster Declaration DR-4240. The District was invited back to submit a complete HMG Application. This scope is for assisting the District with the preparation and submittal of the complete HMG application for the Surge Tower Retrofit Project.

The following Task outlines this Scope of Services:

**Task 1 – Surge Tower Retrofit Hazard Mitigation Grant Application**

GHD will complete the required sections of the HMG Application and submit it to CalOES with all the necessary supporting information. Sections to be completed include:

- Sub-recipient Information – Detailing the District's contract information, etc.
- Project Information – Detailing the Project requirement, location, problem to be solved, proposed project, hazard and risk analysis, community information, etc.
- Work Schedule – Detailing the proposed project schedule including, funding, design, permitting, bidding, construction, and project closeout timelines.
- Cost Estimate – A detailed cost estimate for the design, permitting, and construction of the project will be completed on the required Cost Estimate Excel Spreadsheet.
- Benefit/Cost Effectiveness – A Benefit Cost Analysis (BCA) will be prepared utilizing the FEMA-approved BCA Version 5.1 software.
- Maintenance Assurance Description – A maintenance plan and required maintenance assurance letter will be prepared for the District's signature.
- National Flood Insurance Program (NFIP) – A description of the NFIP program for the project area.

GHD will also complete Part II, the Environmental Questionnaire portion of the application including:

- Environmental Checklist – We will complete the environmental questionnaire checklist and provide backup information as required.

- Alternatives – We will provide detailed information on three alternatives considered for this project and why the selected alternative is the preferred alternative.
- Project Conditions – We will perform the required plant and wildlife database searches and prepare supporting documents to detail the existing environmental conditions in the project site.
- Authorization – Provide contact information for the District's Authorized Representative.

Additional supporting documents will also be gathered by GHD and submitted as attachments to the application including:

- Detailed drawings and figures needed for the project description including a vicinity Map and Site Map as well as the Area of Potential Effect figure of the Environmental Checklist.
- Detailed Scope of Work for the project including design drawings
- Previous reports including the structural inspection reports
- BCA supporting documents and software input and output files
- FEMA FIRM map
- Required environmental condition maps and figures.

#### **Submittals**

Submittals will consist of

- One Draft copy of the application in electronic format to the District for their review and comments
- Two (2) electronic copies in .pdf format and two (2) hardcopies of the Final Application and attachments to CalOES
- Two (2) electronic copies in .pdf format and two (2) hardcopies of the Final Application and attachments to HBMWD

#### **General Assumptions/Exclusions**

This proposal assumes that GHD will complete the scope outlined above and that the District will provide the necessary authorization signatures and other information as needed.

Letters of support from Local, State and Federal officials were obtained for previous HMG applications that the District submitted. It is unknown the impact on the fund process that these letters had, but it is assumed that the District will solicit and obtain any letters of support that they desire.

#### **Professional Service Fee**

GHD will provide the above described scope of services at our standard labor rates for an estimated fee of:

Task 1 – Surge Tower HMG Application Submittal	\$20,000
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**Schedule**

GHD is available to begin work on this scope of work upon receipt of a signed Professional Services Authorization from the District. We anticipate we can complete this work within two months of the receipt of a signed contract, or approximately April 8th, well before the required June 16, 2016 date that applications must be postmarked by.

As always, we appreciate the opportunity to assist you on this project. Please do not hesitate to call me if you have any questions.

Sincerely  
GHD Inc

A handwritten signature in black ink, appearing to be 'PK' with a stylized flourish.

Patrick Kaspari, P.E.  
District Engineer

## Part 12D Initial Conference Call Agenda

### Initial/Scoping Call

The purpose of the initial call is to discuss with the licensee/exemptee what level of effort we anticipate will be required for the Part 12D inspection and help them frame the scope of work for the Independent Consultant (IC). This will help the licensee/exemptee prepare their request for proposal (RFP) for an IC. This will hopefully prevent the number of extension of time requests during the process because there was a lack of understanding on the part of the licensee/exemptee as to the level of work required. The initial call should address the following:

1. Review and Discuss Part 12D process and issues we have had:
  - a. Discuss the reason and purpose for these phone calls.
    - i. Purpose is noted above.
    - ii. Do not have attitude that there have been several P12's prior to this one so everything is correct.
    - iii. IC's proposing inconsistent or inadequate work because of confusion over the scope of work to be performed during the Part 12D process.
    - iv. Reports being returned by the FERC because they are not sufficient and/or do not meet all our guidelines.
    - v. Need to provide documents with ample review time.
    - vi. Consider line item in contract for document review time.
    - vii. The FERC can and will cancel the inspection if the IC is not adequately prepared.
    - viii. Coordinate scheduling inspection with the FERC.
2. Discuss contents of P12 Reminder letter.
  - a. Discuss date of Part 12 report
  - b. Specific requirements to be discussed below
3. Discuss each section of the report, as needed: (discuss ONLY if specific items related to the Scope of Work)
  - a. Findings and Recommendations
    - i. Discuss findings from last report
    - ii. Discuss outstanding recommendations from last report.
  - b. Project Description
    - i. Confirm that it is correct and do not just copy and paste.
    - ii. Any errors in previous Part 12 Report?
    - iii. Don't simply copy and paste.



- c. Discussion of PFMA Report
  - i. Discuss FERC's assessment of the existing PFMA report and discuss what level of effort is anticipated to complete the PFMA review. Provide an estimate of how much time the PFMA review may require.
  - ii. Discuss how much documentation is available and the important about providing this to the IC early
  - iii. Discuss the completeness of the PFM descriptions
  - iv. Discuss the PFM Categories and point out that this will be discussed in much more detail during the Second call (90-day call).
  - v. Discuss time frame for IC inspection and PFMA review as FERC staff will like to be present.
  
- d. DSSMP/DSSMR with Respect to PFM
  - i. General discussion about instrumentation and the new table that associates instrumentation to PFMs
  - ii. Discuss requirement for new statement by CDSE/CDSC
  
- e. Field Inspection
  - i. Discuss what project features need to be inspected (all of them, but emphasize this).
  - ii. Discuss status of inspections on inaccessible features
  - iii. Discuss any special inspection requirements (boat, harnesses, confined spaces, etc.).
  - iv. Discuss any special safety requirements and lockout/tag out, if required
  
- f. Operation and Maintenance Program Relative to PFMs
  - i. Discuss mechanical and electrical systems
  - ii. Human factors
  - iii. Systems/Operational PFMs
  
- g. Assessment of STID
  - i. Biggest problem section
  - ii. Discuss "clear statement"
  - iii. Need statement in EACH section, not a general statement
  - iv. Discuss examples of statements
  - v. Status of analyses
    - 1. Structural/stability analyses
    - 2. Seismic studies
    - 3. Hydrologic Studies
  - vi. Spillway Rating curve – check, don't copy and paste

#### Appendices

- Not a lot to discuss here during initial call

# Financial

**HUMBOLDT BAY MUNICIPAL WATER DISTRICT**  
**Statement of Fund Balances at January 31, 2016**

Account Fund Balance at Month End	AT 1-31-16	AT 1-31-15	Increase/(Decrease)
<u>U.S. BANK ACCOUNTS</u>			
- Commercial Account - Old General Fund Account	\$0.00	\$ 244,493.96	
- Commercial Account - New General Fund Account	838,946.90	0.00	
- Money Market Account (DWR Contract for SRF Loan) ①	159,871.21	159,818.72	
- Certificate of Deposit (DWR Contract for SRF Reserve) ②	547,456.80	547,347.30	
- Municipal Investor Account (Loan for Ranney & Techite Projects) ③	0.00	50,256.34	
- Prop 50 Project Account (Community Intertie Projects) ⑧	0.00	638,667.45	
Subtotal	<u>1,546,274.91</u>	<u>1,640,583.77</u>	(94,308.86)
<u>HUMBOLDT COUNTY:</u>			
- Investment Account	2,560,623.19	1,759,873.58	
- DWFP Reserve (in accordance with Ordinance 16) ④	465,257.94	576,678.50	
- MSRA Reserve (Municipal Supplemental Reserve Account) ⑤	416,442.88	413,432.44	
- SRF Loan Payment ⑥	93,638.93	93,232.50	
- A/B Bond Tax Account	0.00	0.00	
- 1% Tax Account ⑦	0.00	0.00	
Subtotal	<u>3,535,962.94</u>	<u>2,843,217.02</u>	692,745.92
<u>L.A.I.F.</u>	1,598.53	1,593.62	4.91
Cash on Hand	650.00	650.00	0.00
<b>TOTAL CASH</b>	<u><u>\$ 5,084,486.38</u></u>	<u><u>\$ 4,486,044.41</u></u>	<u><u>\$ 598,441.97</u></u>
<b>Less: Encumbrances &amp; Reserves (Funds Dedicated for Specific Purposes and Projects)</b>			
<u>RESTRICTED</u>			
Municipal Customers PF2 Prior Year Reconciliation	(164,825.42)	(144,348.00)	
1% Tax Account ⑦	0.00	0.00	
Municipal Investor Account (Loan for Ranney & Techite Projects) ③	0.00	(50,256.34)	
Municipal Customer Advanced Charging - Ranney Collector 1 & 1A Rehabilitation	(850,251.25)	(429,003.79)	
Municipal Customer Advanced Charging - Ranney Collector 2 Rehabilitation	(179,544.97)	0.00	
DWR Reserve Fund for SRF Loan ②	(547,456.80)	(547,347.30)	
DWR Contract Payment for SRF Loan for DWFP (Drinking Water Filtration Plant-PF1 Charges from Munis) ①	(159,871.21)	(159,818.72)	
- Prop 50 Project Account (Community Intertie Projects) ⑧	0.00	(638,667.45)	
<b>SUBTOTAL RESTRICTED RESERVES (Net Position)</b>	<u><u>(1,901,949.65)</u></u>	<u><u>(1,969,441.60)</u></u>	<u><u>(67,491.95)</u></u>
<u>UNRESTRICTED:</u>			
<u>Board Restricted:</u>			
Paik-Nicely Development	(4,158.00)	(4,158.00)	
DWFP Reserve * ④	(465,257.94)	(576,678.50)	
MSRA Reserve (Municipal Supplemental Reserve Account) ⑤	(416,442.88)	(413,432.44)	
<u>Unrestricted Reserves</u>			
SRF Loan Payment ⑥	(93,638.93)	(93,232.50)	
Techite CalEMA Subgrantee Administrative Allowance	(30,004.63)	(31,779.95)	
Municipal Customer Accumulation for Debt Service for US Bank	7,566.47	7,555.50	
Ranney & Techite Project Loan Payment	(2,180,600.82)	(1,404,876.92)	
General Fund Reserve	(3,182,536.73)	(2,516,602.81)	
<b>SUBTOTAL UNRESTRICTED RESERVES (Net Position)</b>	<u><u>(3,182,536.73)</u></u>	<u><u>(2,516,602.81)</u></u>	<u><u>665,933.92</u></u>
<b>Total Net Position</b>	<u><u>(5,084,486.38)</u></u>	<u><u>(4,486,044.41)</u></u>	<u><u>598,441.97</u></u>

\* DWFP Reserve designated Source of Funds for Techite Pipeline Replacement Project

	JANUARY RECEIPTS	YTD TOTAL AT 1-31-16	BUDGET	% OF BUDGET	YTD TOTAL AT 1-31-15
<b>MISCELLANEOUS RECEIPTS (RETURNED TO CUSTOMERS VIA PF2)</b>					
RETAIL WATER SALES	\$ 25,989.97	\$ 192,179.74	\$306,000	63%	\$ 183,028.89
SUBTOTAL RETAIL WATER SALES	\$ 25,989.97	\$ 192,179.74	\$306,000	63%	\$ 183,028.89
GENERAL REVENUES					
INTEREST (1)	1.48	6,767.13	\$12,000	56%	7,516.77
FCSD CONTRACT FOR MAINT. & OPERATIONS	51,923.16	182,659.99	175,000	104%	146,597.31
POWER SALES	4,191.79	38,964.03	175,000	22%	56,959.90
MISCELLANEOUS (SEE NEXT PAGE)	\$2,178.31	\$ 27,836.43	75,000	37%	\$ 26,786.31
SUBTOTAL GENERAL REVENUES	\$ 58,294.74	\$ 256,227.58	\$437,000	59%	\$ 237,860.29
<b>TAX RECEIPTS</b>					
1% TAXES	0.00	462,720.91	750,000	62%	89,591.49
<b>TOTAL PF 2 CREDIT</b>	<b>\$ 84,284.71</b>	<b>\$ 911,128.23</b>	<b>\$1,493,000</b>	<b>61%</b>	<b>\$ 510,480.67</b>
<b>WHOLESALE CONTRACT RECEIPTS</b>					
INDUSTRIAL	\$0.00	\$0.00	\$0	0%	\$0.00
<b>TOTAL INDUSTRIAL</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0</b>	<b>0%</b>	<b>\$0.00</b>
CITY OF ARCATA	\$91,848.02	\$619,016.84	\$1,129,075	55%	\$574,034.94
CITY OF EUREKA	219,257.03	1,696,203.40	2,745,393	62%	1,399,522.26
HUMBOLDT CSD	73,031.85	499,812.20	939,692	53%	472,495.61
MANILA CSD	6,014.91	40,780.97	74,906	54%	38,145.41
MCKINLEYVILLE CSD	72,937.56	498,709.15	929,087	54%	471,031.46
FIELDBROOK CSD	11,755.98	91,776.43	148,575	62%	84,244.85
BLUE LAKE	13,043.66	93,757.36	173,361	54%	108,960.08
<b>TOTAL MUNIS</b>	<b>\$487,889.01</b>	<b>\$3,540,056.35</b>	<b>\$6,140,089</b>	<b>58%</b>	<b>\$ 3,148,434.61</b>
A/B BOND TAXES	\$0.00	\$0.00	\$0	0%	\$0.00
<b>TOTAL RECEIPTS</b>	<b>\$ 572,173.72</b>	<b>\$ 4,451,184.58</b>	<b>\$7,633,089</b>	<b>58%</b>	<b>\$ 3,658,915.28</b>

(1) LAIF Interest October - December 2015

## MISCELLANEOUS RECEIPTS

	JANUARY	YEAR TO DATE
<b>Administrative</b>		
Parking Lot Rent	\$25.00	\$175.00
Employee Telephone	0.60	52.16
Employee Gas	26.12	487.91
Retirees' Reimbursement of Health Insurance Premium	1,853.91	18,310.26
COBRA Dental Ins & Admin Fee - Retiree	0.00	480.98
COBRA Vision Ins & Admin Fee - Retiree	0.00	132.51
Water Processing Fees	30.00	450.00
Hydrant Rental Deposit	0.00	0.00
Meter Installations	0.00	0.00
Retail Connection Charge	0.00	0.00
Mainline Connection Charge	0.00	0.00
Right of Way Fees	0.00	0.00
Special Event Liability Insurance	0.00	361.50
ACWA/JPIA Retrospective Premium Adjustment	0.00	0.00
ACWA/JPIA Insurance Claim	0.00	0.00
Dividend Check (Principal Life)	202.92	608.76
Bad Debt Recovery	0.00	146.29
Miscellaneous Payments for Copies &/or Postage Costs	21.50	101.88
Diesel Fuel Tax Refund	0.00	0.00
Park Use Fees	0.00	175.00
Overpayment Refund - Reynolds RV	0.00	40.00
McMaster-Carr- Refund of Sales Tax overpayment	13.76	13.76
Pump Solutions-Refund of Sales Tax overpayment	4.50	4.50
State of California - Open Meeting Act Claims 1997-2003	0.00	1,465.00
State of California - Refund of Sales Tax Penalty	0.00	789.30
<b>Ruth Area</b>		
Use of Ruth Cabin	0.00	210.00
RLCSD-Water System Permit Fees	0.00	0.00
Ruth Area Water Use Permit	0.00	0.00
Buffer Strip Right of Way License Fee	0.00	0.00
Ruth Buffer Strip PG&E Right of Way Fees	0.00	0.00
Ruth Sale of Merchantable Timber	0.00	0.00
Ruth Sale of Surplus Gravel	0.00	0.00
Don Bridge Lease	0.00	0.00
<b>Miscellaneous</b>		
Sale of Scrap Transformer	0.00	714.00
Sale of Scrap Metals	0.00	75.65
Sale of Surplus Equipment	0.00	700.00
Humboldt Bay Harbor Recreation & Conservation District	0.00	341.97
GHD - Contribution for Carol Rische's Retirement Event	0.00	2,000.00
Other	0.00	0.00
<b>Total Miscellaneous Receipts</b>	<b>\$2,178.31</b>	<b>\$ 27,836.43</b>

**OTHER RECEIPTS or GRANTS**

CalEMA Techite Grant Reimbursement (Note 1)	\$0.00	\$279,518.00
CDPH - Prop 50 Intertie Project Grant Reimbursement (Note 1)	0.00	186,812.95
Prop 84 - Ranney Collector 1	0.00	15,962.35
CalEMA Blue Lake/Fieldbrook Pipeline Crossing(Note1)	0.00	10,267.00
Fire Hydrant Installation - Techite Pipeline Replacement	0.00	8,200.00

## Notes:

1 - The CalEMA Techite Grant Reimbursement, Prop 50 Intertie Project Grant Reimbursement, CalEMA Blue Lake/Fieldbrook Pipeline Crossing and Fire Hydrant Installation- Techite Pipeline Replacement are not included in PF2 revenue credits because the costs are not included in PF2 project monthly expense totals.

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**HUMBOLDT BAY MUNICIPAL WATER DISTRICT  
TOTAL EXPENDITURES  
AT JANUARY 31, 2016 (7 MONTHS - 58%)**

	JANUARY EXPENSES	TOTAL 1/31/2016	BUDGET	% OF BUDGET	TOTAL 1/31/2015
<b>PAYROLL:</b>					
Regular	\$ 156,287.12	\$ 1,065,986.13	\$ 1,886,825	56%	\$ 1,015,538.14
Part-Time	798.00	19,158.39	53,600	36%	29,554.91
Overtime	2,108.67	15,283.33	35,000	44%	22,074.19
Standby	7,217.14	44,563.85	74,000	60%	43,006.24
Pay Differential	762.96	5,186.08	11,500	45%	5,006.31
Deferred Compensation	1,225.00	8,575.00	14,400	60%	8,350.00
Employee Assistance Plan	70.51	515.61	1,078	48%	523.74
Director Compensation	608.00	12,368.00	26,000	48%	13,840.00
Director - Secretary Fees	262.50	1,837.50	3,200	57%	1,837.50
Taxes/Benefits	108,206.36	807,338.96	1,347,689	60%	722,402.27
<b>TOTAL PAYROLL</b>	<b>\$ 277,546.26</b>	<b>\$ 1,980,812.85</b>	<b>\$ 3,453,292</b>	<b>57%</b>	<b>\$ 1,862,133.30</b>
<b>SERVICE &amp; SUPPLY</b>					
<b>O &amp; M</b>					
Engineering	\$3,233.75	\$44,004.34	\$ 75,000	59%	\$13,053.88
Maint., Repairs, Supplies	11,729.25	60,436.95	115,000	53%	45,016.31
TRF Maint, Repairs, Supplies	10,831.13	27,131.70	55,000	49%	28,110.30
Lab	1,726.16	5,811.16	13,000	45%	5,637.49
Auto Maintenance	3,233.98	20,312.75	46,000	44%	24,770.72
Radio Maintenance	467.29	2,262.24	10,500	22%	1,823.12
USGS Meter Station	0.00	0.00	7,800	0%	0.00
Ruth Lake License	0.00	1,500.00	1,500	100%	1,500.00
<b>A&amp;G</b>					
Accounting Services	0.00	1,000.00	\$ 33,000	3%	26,150.00
Legal	124.00	7,757.00	28,000	28%	3,816.08
Professional Services	815.79	2,933.32	20,000	15%	459.27
Insurance	0.00	71,149.00	93,000	77%	67,858.60
Telephone	4,046.00	27,565.41	31,000	89%	21,677.89
Office Building Maintenance	1,283.50	13,229.54	14,000	94%	12,198.94
Office Expense	2,780.78	33,467.16	46,000	73%	32,778.77
Travel & Conference	0.00	6,045.60	25,000	24%	9,942.43
Dues & Subscriptions	75.00	13,893.40	14,500	96%	14,378.95
Technical Training	260.00	4,525.90	11,000	41%	1,675.63
County Tax Fee	0.00	8,951.00	21,000	43%	0.00
County Property Taxes	0.00	998.60	1,100	91%	998.60
LAFCO	0.00	5,847.74	4,500	130%	0.00
Regulatory Agency Fees	0.00	65,809.79	71,000	93%	45,064.82
Ruth Lake Programs	0.00	0.00	5,000	0%	4,000.00
Miscellaneous	371.65	13,962.51	10,500	133%	5,730.94
<b>TOTAL SERVICE/SUPPLIES W/OUT POWER</b>	<b>\$40,978.28</b>	<b>\$438,479.11</b>	<b>\$ 752,400</b>	<b>58%</b>	<b>\$366,642.74</b>
<b>POWER</b>					
Essex Pacific Gas & Electric	\$ 40,875.22	\$ 342,183.86			\$ 341,431.97
Fuel For 2 MW Generator	0.00	4,394.36			10,946.30
<i>Subtotal Essex Pumping</i>	<i>\$ 40,875.22</i>	<i>\$ 346,578.22</i>			<i>\$ 352,378.27</i>
All Other Pacific Gas & Electric	6,612.82	42,045.69			45,535.07
<b>POWER EXPENSE SUBTOTAL</b>	<b>\$ 47,488.04</b>	<b>\$ 388,623.91</b>	<b>\$ 687,000</b>	<b>57%</b>	<b>\$ 397,913.34</b>
<b>TOTAL SERVICE/SUPPLIES WITH POWER</b>	<b>\$88,466.32</b>	<b>\$827,103.02</b>	<b>\$ 1,439,400</b>	<b>57%</b>	<b>\$764,556.08</b>
<b>PROJECTS, FIXED ASSETS &amp; CONSULTING SERVICES</b>					
	\$ 26,726.11	\$ 586,391.96	\$ 3,945,710	15%	\$ 4,188,632.22
<b>TOTAL OPERATING</b>	<b>\$ 392,738.69</b>	<b>\$ 3,394,423.83</b>	<b>\$ 8,838,402</b>	<b>38%</b>	<b>\$ 6,815,321.60</b>
<b>DEBT SERVICE - SRF LOAN</b>	<b>\$0.00</b>	<b>\$547,336.96</b>	<b>\$ 547,337</b>	<b>100%</b>	<b>\$273,668.48</b>
<b>TOTAL EXPENDITURES</b>	<b>\$ 392,738.69</b>	<b>\$ 3,941,760.79</b>	<b>\$ 9,385,739</b>	<b>42%</b>	<b>\$ 7,088,990.08</b>
<b>DEBT SERVICE - US Bank</b>	<b>\$0.00</b>	<b>\$81,094.05</b>	<b>\$ 162,200</b>	<b>50%</b>	<b>\$81,094.05</b>

(1) SRF Loan payment was made by U.S. Bank on 7/1/2015. This amount was collected from Municipal Customers monthly per PF1 during FY14/15.  
U. S. Bank as Fiscal Agent for District pays State of California semi-annual payments (January and July)

I. CAPITAL PROJECTS	JANUARY	YTD TOTAL	% OF
	EXPENSES	1/31/2016	BUDGET
<b>A. Projects Charged to All Customers via Price Factor 2 (BWF)</b>			
Ranney Collector 2 Rehabilitation	\$0.00	\$118,669.25	84%
Collector 2 - Advanced Charge	9,090.91	63,636.37	64%
Industrial/Domestic Intertie Repair	0.00	0.00	0%
Upgrade Ethernet Radio Modems/PLC Systems at Samoa Booster Pump Station	0.00	0.00	0%
Replace 200HP Variable Frequency Drive at Samoa Booster Pump Station	0.00	12,602.28	90%
Replace Essex Septic System	0.00	883.60	1%
Repair/Upgrade Park Restrooms	0.00	0.00	0%
Upgrade Ruth Hydro Communications	27.44	27.44	1%
Repair Ruth HQ Master Bath/Laundry Room	0.00	0.00	0%
<b>SUBTOTAL A:</b>	<b>\$9,118.35</b>	<b>\$195,818.94</b>	<b>47%</b>
<b>B. Projects Charged to Municipal Customers via Price Factor 2 (DWTF)</b>			
Upgrade Chlorine Leak Response and De-Con Equipment	\$0.00	\$12,405.18	84%
Replace/Modify TRF Access Gate	0.00	0.00	0%
Replace Three TRF Chlorine Analyzers	0.00	7,293.62	25%
Replace Particle Counter	0.00	26,401.45	75%
Remodel TRF Line Shed 5	0.00	0.00	0%
<b>SUBTOTAL B:</b>	<b>\$0.00</b>	<b>\$46,100.25</b>	<b>45%</b>
<b>C. Projects Funded by Other Sources (BWF)</b>			
Blue Lake/FGCSD River Crossing   Funded by Prop 84 & FEMA Grants	\$2,312.00	\$82,194.91	28%
Ranney Collector 1 & 1A Laterals   Partially funded through Prop 84 Grant & Adv. Charges	5,600.50	30,887.93	2%
Replace Ruth Bunkhouse   Partially funded through Reserves	0.00	2,773.33	1%
<b>SUBTOTAL C:</b>	<b>\$7,912.50</b>	<b>\$115,856.17</b>	<b>5%</b>
<b>TOTAL CAPITAL PROJECTS:</b>	<b>\$17,030.85</b>	<b>\$357,775.36</b>	<b>13%</b>

Annual Capital Project Limitation (per Section 7.2.5 of Ordinance 16)  
Amount that can be charged to wholesale customers in a fiscal year.

FY2013/14 Annual Limit	1,083,300
Total charged to date	-\$241,919
Balance Remaining	841,380

While the total projects expenditures are budgeted at \$3,945,710, the actual wholesale customer charges are \$2,093,060. Capital Projects C is the listing of Projects Funded by Other Sources. In addition the Ranney Collector 3 and Techite Pipeline Replacement projects have been partially funded with financing over 10 years. Only the annual debt service for these financed projects are being charged to the wholesale customers.

I. FIXED ASSETS		JANUARY	YTD TOTAL	% OF
A. Projects Charged to All Customers via Price Factor 2 (BWF)		EXPENSES	1/31/2016	BUDGET
Essex- Replace Administrative Computers		\$0.00	\$4,386.36	4,250 103%
Essex - Replace Control System Computer		0.00	0.00	2,500 0%
Replace 8 Inch Barnes Pump		0.00	0.00	62,250 0%
Hydraulic Lift Gate for Unit 15		0.00	0.00	4,800 0%
Replace Unit 13		0.00	0.00	27,750 0%
Remote Control for Shop Bridge Crane		0.00	804.25	1,250 64%
Purchase Electric Jackhammer		0.00	1,590.47	1,750 91%
Replace/Upgrade Portable Work Lighting		0.00	1,714.08	2,750 62%
Purchase Portable Scaffolding		0.00	0.00	5,750 0%
Install Signal Amplifier at Mt. Pierce		0.00	0.00	4,500 0%
Replace Ruth Hydro 125 VDC Power System (Battery Bank)		0.00	0.00	20,750 0%
Replace Eureka Office GIS Computer		0.00	0.00	3,600 0%
<b>SUBTOTAL A:</b>		\$0.00	\$8,495.16	141,900 6%
<b>B. Projects Charged to Municipal Customers via Price Factor 2 (DWTF)</b>				
Replace Chlorine Safety Shutdown System		\$0.00	\$0.00	23,750 0%
Replace V-Notch Chlorinators at Essex		0.00	0.00	13,250 0%
Purchase Back-up TRF Sludge Pump		0.00	0.00	5,750 0%
<b>SUBTOTAL B:</b>		\$0.00	\$0.00	42,750 0%
<b>TOTAL FIXED ASSETS PROJECTS:</b>		<b>\$0.00</b>	<b>\$8,495.16</b>	<b>184,650 5%</b>



II. MAINTENANCE PROJECTS		JANUARY	YTD TOTAL	% OF
A. Charged to All Customers via Price Factor 2 (BWF)		EXPENSES	1/31/2016	BUDGET
Pipeline Maintenance		\$0.00	\$4,524.92	12,330
12KV Electric System Maintenance		0.00	0.00	4,000
12KV Emergency Repair Parts		0.00	0.00	2,000
Mainline Meter Flow Calibration		0.00	0.00	6,000
Technical Support & Software Updates to Include Control System		0.00	5,584.86	21,000
Generator Service		196.48	196.48	4,000
Hazard & Diseased Tree Removal		0.00	0.00	5,540
Cathodic Protection		0.00	153.34	5,740
Maintenance Emergency Repair		0.00	0.00	40,000
Fleet Paint Repairs		0.00	3,440.08	5,000
Large Business & Fire Service Meter Calibration & Maintenance		0.00	0.00	15,000
Replace Eyewash/Shower Station and Drain System		0.00	0.00	5,500
Replace Samoa Booster Pump Station Roof		0.00	3,823.66	6,750
Paint 2MW Generator Enclosure and Fuel Tank		0.00	275.14	10,500
Repair/Upgrade 1000 Gallon Fuel Tank		0.00	0.00	5,750
Brush Abatement at Ruth Dam		0.00	0.00	5,540
Ruth Hydro - Howell Bunger Valve Inspection		0.00	0.00	1,110
Ruth Hydro - Replace Howell Bunger Valve Hydraulic Cylinder		0.00	7,045.78	7,000
<b>SUBTOTAL A:</b>		\$196.48	\$25,044.26	162,760
<b>B. Projects Charged to Municipal Customers via Price Factor 2 (DWTF)</b>				
TRF - Generator Service		\$0.00	\$141.96	500
TRF Limitorque Valve MXA-05 Conversion Kits		0.00	3,153.24	6,500
Rebuild TRF Sludge Pump		0.00	0.00	2,500
Replace TRF Sludge Wet Well Control Valves		0.00	7,091.90	5,250
<b>SUBTOTAL B:</b>		\$0.00	\$10,387.10	14,750
<b>TOTAL MAINTENANCE PROJECTS:</b>		<b>\$196.48</b>	<b>\$35,431.36</b>	<b>177,510</b>
				<b>20%</b>

III. PROFESSIONAL & CONSULTING SERVICES			
A. Charged to All Customers via Price Factor 2 (BWF)	JANUARY EXPENSES	YTD TOTAL 1/31/2016	% OF BUDGET
Crane Testing/Certification	\$0.00	\$1,059.19	16%
Crane Operator Training	50.00	7,000	1%
Essex Mad River Cross-Sectional Survey	0.00	8,567.00	86%
Mad River Watershed	0.00	50,000	0%
Urban Water Management Plan Update	0.00	10,000	0%
Focused Engineering Study for Facility Use Master Plan	2,568.00	17,119.50	63%
Essex Control Building Plans & Specifications	0.00	40,000	0%
Focused Engineering Studies	0.00	35,000	0%
Dune Monitoring Program - Component of Coastal Conservancy Climate Ready Grant	0.00	2,000	0%
Planning for SCADA System Upgrade	0.00	50,000	0%
GIS/Facilities Information System	416.00	7,254.00	56%
Backflow Tester Training	0.00	410.00	14%
Control Software Training	0.00	12,387.92	83%
Technical Training	0.00	5,750	0%
Ruth Lake Buffer Strip Timber Management	0.00	15,000	0%
Hydro Assessment & Analysis	0.00	15,000	0%
FERC Dam Safety Surveillance & Monitoring Report(DSSMR)/FERC Dam Safety Review (Part 12)	0.00	369.00	1%
FERC Dam Safety Surveillance Monitoring Plan Bi-Annual Surveys	3,419.50	29,920.00	100%
FERC Part 12 Seismic Analysis	1,320.53	12,808.63	128%
FERC Part 12 Independent Consultant Inspection and Engineering Support	25.75	5,559.26	6%
Upgrade District Website	0.00	25.00	0%
Grant Applications	0.00	7,525.00	25%
Water Resources Planning	0.00	9,950.83	13%
<b>SUBTOTAL A:</b>	<b>\$7,799.78</b>	<b>\$113,005.33</b>	<b>19%</b>
<b>B. Projects Charged to Municipal Customers via Price Factor 2 (DWTF)</b>			
Chlorine System Maintenance	\$0.00	\$1,927.69	12%
<b>SUBTOTAL B:</b>	<b>\$0.00</b>	<b>\$1,927.69</b>	<b>12%</b>
<b>TOTAL PROFESSIONAL &amp; CONSULTING SERVICES:</b>	<b>\$7,799.78</b>	<b>\$114,933.02</b>	<b>19%</b>
IV. INDUSTRIAL SYSTEM PROJECTS			
A. Charged to All Customers via Price Factor 2 (BWF)	JANUARY EXPENSES	YTD TOTAL 1/31/2016	% OF BUDGET
- Maintain Water Supply to Industrial Pump Station (Pump Station 6) During Low-Flow Months	\$0.00	\$340.00	3%
- Surge Tower Replacement Plans	1,699.00	6,244.50	12%
<b>SUBTOTAL A:</b>	<b>\$1,699.00</b>	<b>\$6,584.50</b>	<b>10%</b>
<b>B. Charged to Municipal Customers via PF2 (DWTF)</b>			
<b>SUBTOTAL B:</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>0%</b>
<b>TOTAL INDUSTRIAL SYSTEM PROJECTS:</b>	<b>\$1,699.00</b>	<b>\$6,584.50</b>	<b>10%</b>

CARRY-OVER PROJECTS FROM 2014/15	JANUARY EXPENSES	YTD TOTAL 1/31/2016	BUDGET	% OF BUDGET
<b>I. CAPITAL PROJECTS</b>				
<b>A. Charged to All Customers via Price Factor 2 (BWF)</b>				
Engineering & Design for Essex Septic System	\$0.00	\$15,078.86	12,000	126%
Replace Check Valves on Collector Pumps	0.00	2,175.00	2,100	104%
Energy Efficiency Upgrades for Electrical Shop	0.00	1,907.14	2,000	95%
Ruth Hydro - Install Auto Synchronizer System	0.00	11,732.32	14,000	84%
Ruth - Build Cover Over Fuel Tank	0.00	2,319.55	2,500	93%
<b>Subtotal Capital Projects</b>	<b>\$0.00</b>	<b>\$33,212.87</b>	<b>32,600</b>	<b>102%</b>
<b>I. FIXED ASSETS</b>				
<b>A. Charged to All Customers via Price Factor 2 (BWF)</b>				
<b>SUBTOTAL A.</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>0</b>	<b>0%</b>
<b>B. Projects Charged to Municipal Customers via Price Factor 2 (DWTf)</b>				
TRF - Security System Upgrades	\$0.00	\$0.00	20,000	0%
TRF - Install New Cabinets in Lab	0.00	0.00	750	0%
Purchase Slow Speed N-Poly Mixer	0.00	3,986.04	7,500	53%
<b>SUBTOTAL B.</b>	<b>\$0.00</b>	<b>\$3,986.04</b>	<b>28,250</b>	<b>14%</b>
<b>Subtotal Fixed Assets Projects</b>	<b>\$0.00</b>	<b>\$3,986.04</b>	<b>28,250</b>	<b>14%</b>
<b>II. MAINTENANCE PROJECTS</b>				
<b>A. Charged to All Customers via Price Factor 2 (BWF)</b>				
Update Essex & Maintenance Shop Restrooms	\$0.00	\$0.00	1,000	0%
Re-Grade Area Around Collector 4	0.00	2,481.00	5,000	50%
Relocate Radio Equipment at Picketts Peak	0.00	15,368.15	30,000	51%
Ruth Spillway Bridge Painting	0.00	0.00	85,000	0%
<b>SUBTOTAL A.</b>	<b>\$0.00</b>	<b>\$17,849.15</b>	<b>121,000</b>	<b>15%</b>
<b>B. Projects Charged to Municipal Customers via Price Factor 2 (DWTf)</b>				
<b>SUBTOTAL B.</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>0</b>	<b>0%</b>
<b>Subtotal Maintenance Projects</b>	<b>\$0.00</b>	<b>\$17,849.15</b>	<b>121,000</b>	<b>15%</b>
<b>III. PROFESSIONAL &amp; CONSULTING SERVICES</b>				
<b>A. Charged to All Customers via Price Factor 2 (BWF)</b>				
Collector 3 Evaluation Report	\$0.00	\$8,124.50	8,000	102%
<b>SUBTOTAL A.</b>	<b>\$0.00</b>	<b>\$8,124.50</b>	<b>8,000</b>	<b>102%</b>
<b>B. Projects Charged to Municipal Customers via Price Factor 2 (DWTf)</b>				
<b>SUBTOTAL B.</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>0</b>	<b>0%</b>
<b>Subtotal Professional &amp; Consulting Projects</b>	<b>\$0.00</b>	<b>\$8,124.50</b>	<b>8,000</b>	<b>102%</b>
<b>2014/15 CARRYOVER PROJECTS TOTAL</b>	<b>\$0.00</b>	<b>\$63,172.56</b>	<b>189,850</b>	<b>35%</b>
<b>PROJECTS GRAND TOTAL:</b>	<b>\$26,726.11</b>	<b>\$586,391.96</b>	<b>3,945,710</b>	<b>15%</b>
<b>Less Projects Funded from Other Sources (Grants/Loans/Advanced Charges/Reserves)</b>	<b>(7,912.50)</b>	<b>(115,856.17)</b>	<b>(2,209,850.00)</b>	<b>5%</b>
<b>PF2 Project Total Charged to Customers excluding Debt Service (US Bank)</b>	<b>\$18,813.61</b>	<b>\$470,535.79</b>	<b>1,735,860.00</b>	<b>27%</b>

Community Interties | Funded by Prop 50 Grant  
 The Community Intertie Project is complete. The costs shown above were fully reimbursed by the Prop 50 Intertie Project Grant.

Humboldt Bay Municipal Water District  
 Overtime Pay  
 January 2016

	54TRF		52		53		54		55		TOTAL	
	Hours	Jan 16	Hours	Jan 16	Hours	Jan 16	Hours	Jan 16	Hours	Jan 16	Hours	Jan 16
Employee Wages, Taxes and Adjustm...												
Gross Pay		0.00		0.00		0.00		154.42		0.00		2.00
Double Time	9	529.71	10.5	567.36	1	47.40	13	714.98	2	94.80		35.50
Overtime	9	529.71	10.5	567.36	1	47.40	15	869.40	2	94.80		1,954.25
Total Gross Pay												
Adjusted Gross Pay	9	529.71	10.5	567.36	1	47.40	15	869.40	2	94.80		2,108.67
Net Pay	9	529.71	10.5	567.36	1	47.40	15	869.40	2	94.80		2,108.67
Employer Taxes and Contributions		0.00		0.00		0.00		0.00		0.00		0.00

51 - Ruth  
 52 - Pumping & Control  
 53 - Water Treatment  
 54 - Maintenance & Operation  
 55 - Customer Service  
 56 - Administration  
 58 - Ruth Hydro

# Humboldt Bay Municipal Water District Expenses by Vendor Detail

January 2016

Memo	Amount
AirGas NCN	
safety supplies	-28.49
Total AirGas NCN	-28.49
Almquist Lumber	
Unit 8 upgrade	-25.86
Total Almquist Lumber	-25.86
Altec Industries, Inc	
chipper maintenance	-308.44
Total Altec Industries, Inc	-308.44
Arcata Garbage	
Essex garbage	-417.99
Total Arcata Garbage	-417.99
Asbury Environmental Services	
used oil and filter disposal	-278.17
Total Asbury Environmental Services	-278.17
AT & T	
Ruth HQ	
TRF	
Essex office	
Eureka office	-57.27
Ruth Hydro	
Valve Building Samoa	
Ruth HQ	-51.38
TRF	-121.47
Essex office	-103.04
Eureka office	-6.29
Ruth Hydro	-850.29
Valve Building Samoa	-79.33
Total AT & T	-1,269.07
AT&T	
Eureka/Essex Landline	-37.41
Arcata/Essex Landline	-37.41
Samoa/Essex Landline	-238.94
Blue Lake Meter Signal Line	-63.08
Eureka Office	-96.60
Eureka Office Alarm Line	-40.68
Samoa Booster Pump Station	-67.61
Valve Building-Samoa	-96.60
Eureka Office	-277.05
Essex Office	-572.45
TRF	-197.56
Ruth Data Line	-93.58
Total AT&T	-1,818.97
AT&T Advertising Solutions	
white page listing	-21.00
Total AT&T Advertising Solutions	-21.00
Biovir Laboratories, Inc	
lab tests	-1,246.16
Total Biovir Laboratories, Inc	-1,246.16
Carol McKibben	
expense reimbursement for treatment certification renewal classes	-20.00
expense reimbursement for distribution certification renewal classes	-75.00
Total Carol McKibben	-95.00
City of Eureka	
Eureka office water/sewer	-48.70
Total City of Eureka	-48.70

# Humboldt Bay Municipal Water District Expenses by Vendor Detail

January 2016

Memo	Amount
Coast Counties Truck & Equipment Company	
Unit 10 repair	-36.19
Unit 10 repair	-1,185.17
Total Coast Counties Truck & Equipment Company	-1,221.36
Cody Bruffett	
auto mileage reimbursement	-273.13
Total Cody Bruffett	-273.13
Cummins Pacific LLC	
Generator service	-196.48
Total Cummins Pacific LLC	-196.48
DHS-WTOC Renewal	
T4 Treatment Certification Renewal	-105.00
Total DHS-WTOC Renewal	-105.00
Eureka Glass Company, Inc- Arcata	
work light maintenance	-22.51
Total Eureka Glass Company, Inc- Arcata	-22.51
Eureka Oxygen	
equipment maintenance	-62.57
maintenance supplies	-64.91
cylinder rental	-91.88
Total Eureka Oxygen	-219.36
Eureka Rubber Stamp	
director name plates	-60.52
Total Eureka Rubber Stamp	-60.52
Fastenal Company	
replace kerosene heater	-340.62
maintenance supplies	-46.94
Total Fastenal Company	-387.56
FEDEX	
ship info to FERC Part 12 Inspection Consultant	-25.75
Freight charges for Ruth Hydro Communication Upgrade project	-27.44
Total FEDEX	-53.19
Fernbridge Tractor & Equipment Company	
equipment repair	-985.76
Total Fernbridge Tractor & Equipment Company	-985.76
FleetPride	
Unit 10 maintenance	-21.18
Total FleetPride	-21.18
GEI Consultants, Inc	
Assistance with FERC Part 12 Inspection	-900.75
Total GEI Consultants, Inc	-900.75
GFS Chemicals, Inc	
turbidity standards	-603.12
Total GFS Chemicals, Inc	-603.12

# Humboldt Bay Municipal Water District Expenses by Vendor Detail

January 2016

Memo	Amount
GHD	
(55901) General Engineering - Essex	-2,512.25
(55901) General Engineering - Eureka	-651.00
(55901) General Engineering - FERC Part 12 - Seismic Analysis	-232.50
(55901) General Engineering - Ruth Hydro	-70.50
(58317) Surge Tower Demolition Design	-1,699.00
(58311) Facilities Planning	-2,568.00
(58313) Matthews Dam Spillway Survey	-1,209.00
(58314) Matthews Dam Crest Survey	-884.00
(58310) Matthews Dam Slide Survey	-1,326.50
(58316) Collector 1 & 1A Lateral Installation - Construction Observations	-730.00
(58312) Collector 1 & 1A Lateral Installation - Bidding & Contract Assistance	-4,870.50
(58315) Blue Lake/Fieldbrook-Glendale CSD River Crossing	-2,312.00
Total GHD	-19,065.25
Harbor Freight Tools maintenance supplies	-28.25
Total Harbor Freight Tools	-28.25
Hensel Hardware maintenance supplies replace Essex mailbox	-52.57
	-31.53
Total Hensel Hardware	-84.10
Hopkins Technical Products, Inc TRF pump repair	-22.29
Total Hopkins Technical Products, Inc	-22.29
Humboldt County Assessor Ownership/mailing addresses for Prop 218 Retail Rate Notice	-112.75
Total Humboldt County Assessor	-112.75
Humboldt Fasteners maintenance supplies	-135.00
Total Humboldt Fasteners	-135.00
Humboldt Redwood Company, LLC Mt. Pierce Lease	-254.29
Total Humboldt Redwood Company, LLC	-254.29
Ian Ivey expense reimbursement for safety shoes	-380.60
Total Ian Ivey	-380.60
Industrial Electric test station for TRF Limitorque valves test station for TRF Limitorque valves	-218.72
	-22.15
Total Industrial Electric	-240.87
Interstate Battery System Unit 10 repair	-326.76
Total Interstate Battery System	-326.76
Jack Hurst Trucking Haul Rock to Ruth Lake - Fire Damage	-5,655.60
Total Jack Hurst Trucking	-5,655.60
John Friedenbach auto mileage reimbursement expense reimbursement for Director photo proofs	-20.70
	-18.35
Total John Friedenbach	-39.05
Lindberg Geological Consulting Geological Review and Assessment R.W. Matthews Dam	-180.00
Total Lindberg Geological Consulting	-180.00

# Humboldt Bay Municipal Water District Expenses by Vendor Detail

January 2016

Memo	Amount
Lisa Newell	
auto mileage reimbursement	-32.20
Total Lisa Newell	-32.20
Mad River Union	
Annual Subscription	-35.00
Total Mad River Union	-35.00
McMaster-Carr Supply	
maintenance supplies	-28.35
Total McMaster-Carr Supply	-28.35
Mendes Supply Company	
Essex office maintenance supplies	-128.89
Eureka office maintenance supplies	-109.52
Total Mendes Supply Company	-238.41
Miller Farms Nursery	
repair Park 4 fence	-68.83
Total Miller Farms Nursery	-68.83
Mission Linen	
Uniform Rental	-551.02
Total Mission Linen	-551.02
Mitchell, Brisso, Delaney & Vrieze	
Legal services December 2015	-124.00
Total Mitchell, Brisso, Delaney & Vrieze	-124.00
Napa Auto Parts	
vehicle maintenance	-61.54
equipment maintenance	-26.35
maintenance supplies	-32.66
Unit 1 repair	-15.38
Unit 13 repair	-22.87
equipment maintenance	-49.28
maintenance supplies	-169.75
repair TRF heaters	-35.15
Howell Bunger Valve maintenance	-20.62
vehicle maintenance	-33.72
Total Napa Auto Parts	-467.32
NCCCO	
Crane Operator Certification	-50.00
Total NCCCO	-50.00
NEAC	
Annual membership	-40.00
Total NEAC	-40.00
Network Management Services	
TotalCare Computer Support Service for Eureka office	-493.09
TotalCare Guard-IT Security Service for Eureka office	-139.99
Eureka office computer assistance	-100.79
Total Network Management Services	-733.87
North Coast Cleaning Services, Inc	
Eureka office building maintenance	-495.00
Total North Coast Cleaning Services, Inc	-495.00
North Coast Laboratories	
lab tests	-480.00
Total North Coast Laboratories	-480.00
Northern California Safety Consortium	
monthly membership	-50.00
Total Northern California Safety Consortium	-50.00



## Humboldt Bay Municipal Water District Expenses by Vendor Detail

January 2016

Memo	Amount
NTU Technologies, Inc	
TRF chemical supplies	-4,734.00
Total NTU Technologies, Inc	-4,734.00
O&M Industries	
fabricate rain shields for doors	-90.53
Total O&M Industries	-90.53
Pacific Gas & Electric Co.	
Ruth HQ	-65.57
Eureka Office	-692.49
Jackson Ranch Rectifier	-15.77
299 Rectifier	-69.49
West End Road Rectifier	-80.64
TRF	-5,149.58
Ruth Valve Control	-21.25
Ruth Hydro	-45.77
Samoa Booster Pump Station	-456.58
Samoa Dial Station	-15.68
Essex Pumping Dec 1 - 31, 2015	-40,875.22
Total Pacific Gas & Electric Co.	-47,488.04
Pitney Bowes	
postage meter lease	-212.07
refill postage meter	-500.00
postage meter supplies	-66.54
Total Pitney Bowes	-778.61
Planwest Partners, Inc	
radio repair	-455.00
Total Planwest Partners, Inc	-455.00
Platt Electric Supply	
Collector well lights	-452.63
Total Platt Electric Supply	-452.63
Rebecca J. Moyle	
auto mileage reimbursement	-10.24
holiday party	-27.88
laminare FERC EAP Flow Charts	-4.33
Certified mail - 2 Operator Exam applications (Distribution)	-14.90
replace Eureka office coffee maker	-32.61
supplies for California Office of Planning & Development meeting	-23.73
Total Rebecca J. Moyle	-113.69
Recology Humboldt County	
Eureka office garbage/recycling service	-75.27
Total Recology Humboldt County	-75.27
Renner Petroleum	
Ruth Hydro generator fuel	-392.18
cardlock fuel - pumping & control	-261.60
cardlock fuel - water quality	-261.60
cardlock fuel - maintenance	-261.59
cardlock fuel - customer service	-261.59
Total Renner Petroleum	-1,438.56
Ryan Chairez	
expense reimbursement for equipment for reservoir inspection	-43.19
Total Ryan Chairez	-43.19
Sequoia Gas	
refill Ruth bunkhouse propane	-267.81
Ruth bunkhouse propane tank rental	-69.00
return Picketts Peak propane - credit	242.00
Total Sequoia Gas	-94.81

## Humboldt Bay Municipal Water District Expenses by Vendor Detail

January 2016

Memo	Amount
Shape Products	
TRF supplies	-80.12
Total Shape Products	-80.12
Sierra Chemical Company	
TRF chemicals	-5,119.91
Total Sierra Chemical Company	-5,119.91
Sitestar Nationwide Internet	
Essex Internet	-52.90
Total Sitestar Nationwide Internet	-52.90
Steven A. Marshall	
Essex office supplies	-54.30
supplies for Holiday party	-54.60
Unit 1 equipment	-21.74
2" pump maintenance	-3.23
Collector maintenance	-6.51
Total Steven A. Marshall	-140.38
Stillwater Sciences	
professional assistance - Fish habitat/biologist consultation	-715.00
Total Stillwater Sciences	-715.00
Sudden Link	
Eureka office Internet	-204.95
Total Sudden Link	-204.95
SWRCB-DWOCP	
Water Treatment T2 Operator Certification renewal	-60.00
Total SWRCB-DWOCP	-60.00
T.P. Tire Service, Inc	
Unit 3 tire repair	-15.00
Unit 8 toolbox	-107.66
Total T.P. Tire Service, Inc	-122.66
Telstar Instruments, Inc	
TRF supplies	-598.79
Total Telstar Instruments, Inc	-598.79
The Mill Yard	
maintenance supplies	-42.49
Total The Mill Yard	-42.49
Thrifty Supply	
Fieldbrook-Glendale CSD meter replacement	-55.75
Total Thrifty Supply	-55.75
Times Printing	
envelopes	-216.20
Total Times Printing	-216.20
Trinity County Solid Waste	
Ruth HQ dump fees	-4.06
Ruth Hydro dump fees	-4.07
Total Trinity County Solid Waste	-8.13
Trinity Diesel, Inc	
repair 6" Barnes pump	-18.94
Total Trinity Diesel, Inc	-18.94
U.S. Bank	
conference call - FERC Part 12 Seismic Analysis	-7.28
Ruth Hydro email	-11.95
Total U.S. Bank	-19.23

# Humboldt Bay Municipal Water District Expenses by Vendor Detail

January 2016

Memo	Amount
U.S. Bank Corporate Payment System	
replace Essex cell phone chargers	-58.69
Essex office supplies	-630.09
Webinar OSHA Inspections	-99.00
CSDA Salary and Benefit Survey	-155.52
employee jacket	-91.57
Total U.S. Bank Corporate Payment System	-1,034.87
USA Blue Book	
replace Essex rain gauge	-83.96
Total USA Blue Book	-83.96
USTI, Inc	
eBills charges for Humboldt Bay retail	-11.52
eBills charges for Fieldbrook-Glendale CSD	-13.84
Total USTI, Inc	-25.36
Verizon California	
Ruth HQ	-50.08
Ruth Hydro/dataline	-169.17
Total Verizon California	-219.25
Verizon Wireless	
Operations 1	-0.97
Superintendent	-109.23
Unit 3	-52.12
Alternate Superintendent	-33.84
Unit 12/Electrician	-0.22
Operations 2	-2.44
Unit 11	-53.03
Maintenance Supervisor	-38.25
Electrician	-23.32
Unit 6	-7.87
Unit 6	-7.87
Assistant Water Supervisor	-47.14
spare	-33.70
Alternate Operations	-0.22
Total Verizon Wireless	-410.22
TOTAL	-105,520.02



 GOVERNMENT BANKING

**Government Banking Division**  
SF-CA-8997  
2385 Esplanade Chico, CA 95973  
Telephone: 530.893.6152  
Facsimile: 530.342.8010  
Cell Phone: 530.520.0593  
Cust. Serv: 877.295.2509

Humboldt Bay Municipal Water District  
Attn: John Friedenbach  
828 7<sup>th</sup> Street  
Eureka, CA 95501-1114

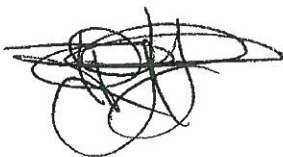
January 28, 2016

Dear John Friedenbach:

As you know, we had discussed a couple of options in the case of a disaster situation where the District would need to seek emergency funding. One of those options was an undocumented "guidance line". With some of new regulation, we did run into some challenges for an undocumented line. Provisions of the Legislation would require that we collateralize the guidance line and we would need to document the transaction through Bond Counsel. In addition, we would need to charge an unused fee for the line.

Because the District is a long-time customer and we have issued credit in the past, I do believe we could move fairly quickly on analysis of a credit transaction should the need arise. We appreciate the business we have with the District and apologize for any challenges this may cause on your end.

Sincerely,



Troy Kidd  
Vice President  
Relationship Manager

**HUMBOLDT BAY MUNICIPAL WATER DISTRICT**

To: Board of Directors

From: Paul Helliker

Date: February 11, 2016

Subject: Techite pipeline replacement project FEMA grant audit

.....

We have received a draft of an audit compliance report from CalOES on the engineering contract with GHD for the Techite pipeline replacement project. The report is based on the review period of June 1 through September 30, 2012, and a site visit on November 14-16, 2012. The report contains two findings:

1. The contract with GHD did not contain 13 sections required by federal procurement regulations, such as compliance with the 1965 equal employment opportunity executive order, the Copeland Anti-kickback Act, the Davis-Bacon Act, etc. The proposed remedy is for HBMWD to demonstrate how it will ensure that future contracts include these provisions.
2. The contract file did not include a history of the procurement with GHD, including demonstration that qualifications were adequate and that reasonable prices were paid. The proposed remedy is for HBMWD to demonstrate how it will ensure that future procurements comply with federal competitive procurement regulations, and to disallow the \$378,404 in engineering contract costs incurred by GHD in the project.

Prior to completing the report, CalOES has given us an opportunity to supply the missing documentation on our procurement process. Federal regulations allow grantees to conduct various competitive bid processes, including a request for qualification (RFQ) process for architectural and engineering services. Sole-source awards are allowed, if they meet various criteria such as the item is available from only one source, an emergency does not allow for a competitive solicitation, the awarding agency authorizes non-competitive proposals or a solicitation from a number of sources produces inadequate competition. The regulations further specify that various situations are considered to be restrictive of competition, including noncompetitive awards to consultants on retainer contracts.

HBMWD received the Hazard Mitigation Grant Program award from FEMA/CalOES in February of 2012. The total award was \$2.2 million, which covered 75% of the total project cost of \$2.9 million. HBMWD contracted with GHD for these services in March, 2012.

HBMWD distributed a request for proposals for engineering services for the Techite project in mid-July, 2013, which were due to be submitted on July 31, 2013. A proposal for the full scope of services was received from GHD, and one for just construction management was received from Oscar Larson and Associates (OLA). The District's review team recommended that HBMWD use GHD for environmental, permitting, engineering and bid assistance services, and OLA for construction management services.

We will be providing to CalOES the documentation we have on the RFQ process that we used for this project, and will work with them to resolve the findings in the audit.

# Operations

Memo to: HBMWD Board of Directors  
From: Dale Davidsen, Superintendent  
Date: February 7, 2016  
Subject: Essex/Ruth January Operational Report

### **Ruth Lake, Upper Mad River and Hydro Plant**

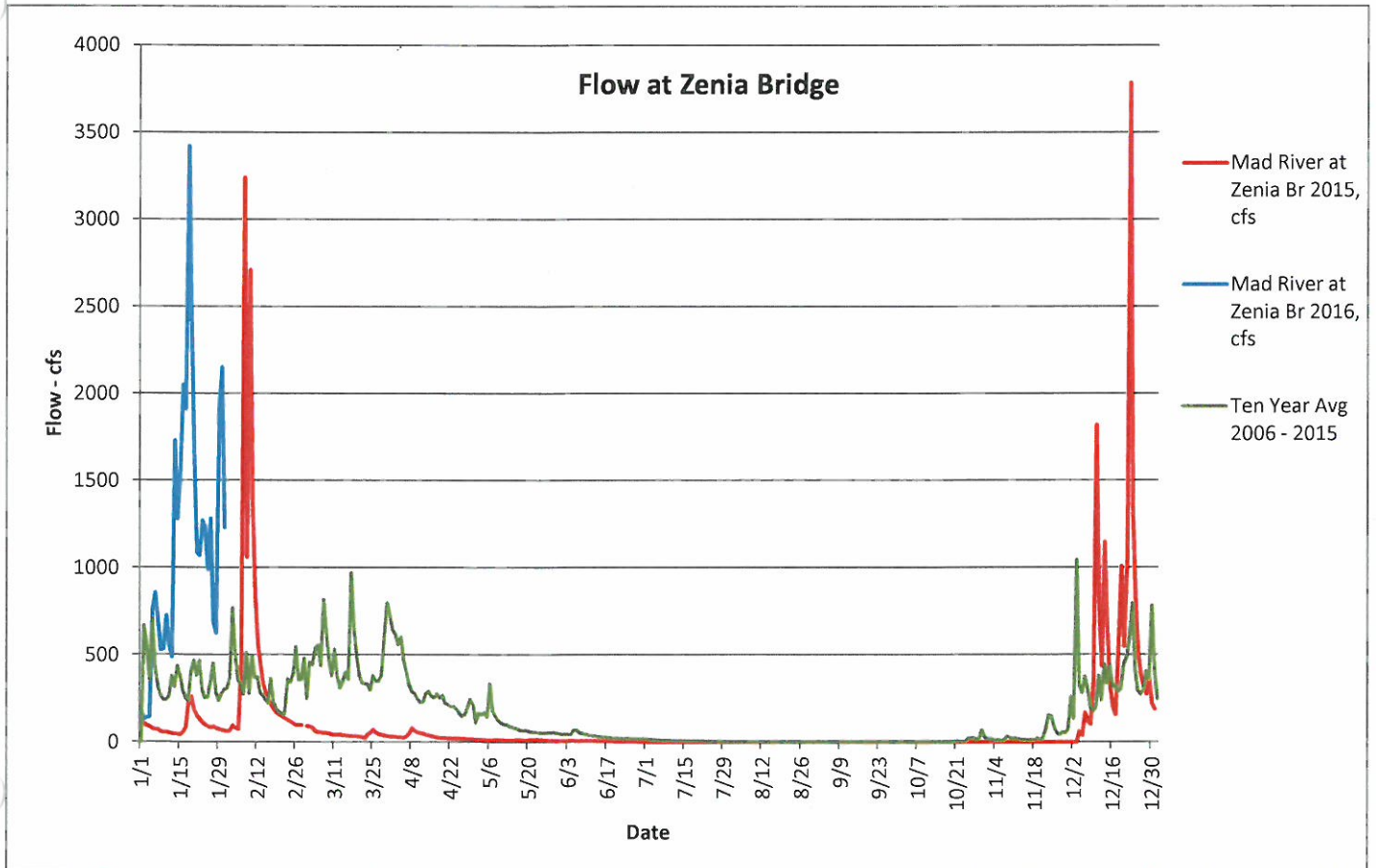
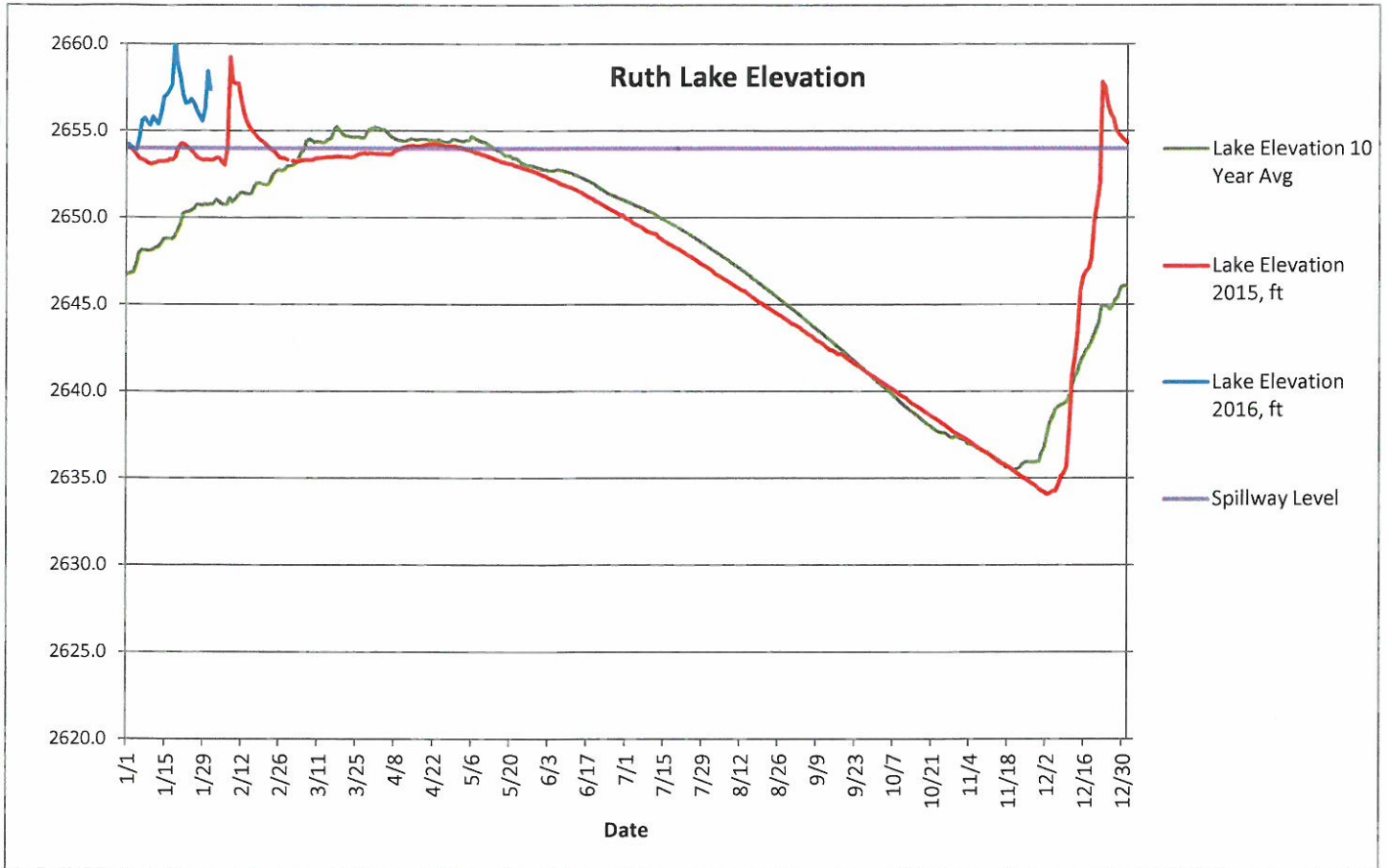
1. The high flow at Mad River above Ruth Reservoir (Zenia Bridge) during the month was measured on January 17 at 6,890 cfs and the low flow was measured on January 3 at 141 cfs.
2. The conditions at Ruth Lake in December were as follows:
  - a. The lake level on January 31, 2016 was 2657.36 feet which is:
    1. 2.98 feet higher than December 31, 2015
    2. 4.03 feet higher than January 31, 2015
    3. 6.31 feet above the ten year average
    4. 3.36 feet above the spillway
3. We measured 22.27 inches of rain at Ruth Headquarters during the month with a high reading of 2.65 inches measured on January 29.
4. Ruth hydro power production was 904,800 kWh during the month with 3 shutdowns and 41,665 kW lost production.
5. The high discharge flow from the lake this month was 6,110 cfs on January 18 and the low release flow from the lake was 237 cfs on January 3.

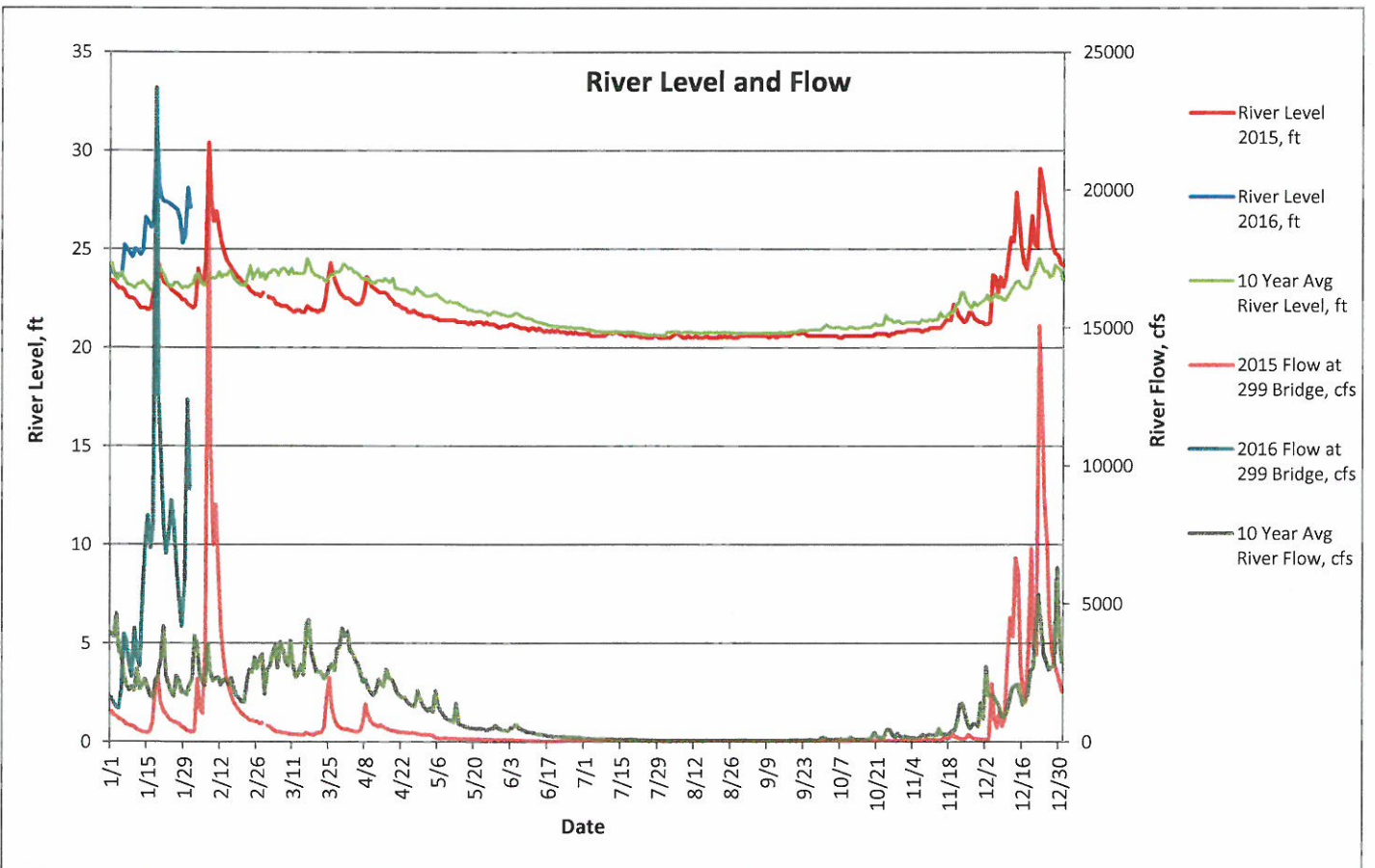
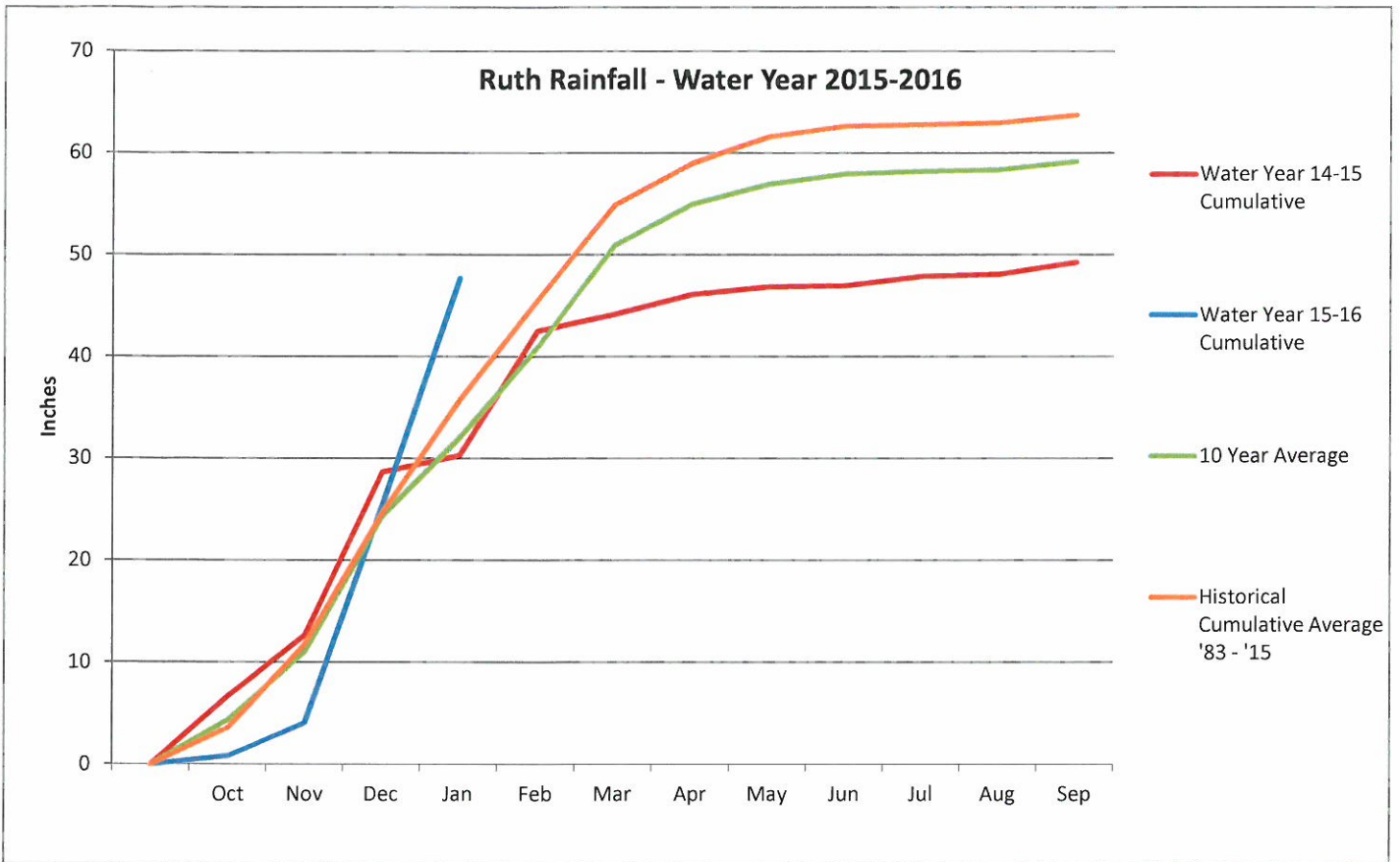
### **Winzler Control, TRF and Lower Mad River**

6. The river at Winzler Control Center reached a high recorded flow of 41,100 cfs and a level of 36.0 feet on January 17. The low river flow was on January 4, with a flow of 1210 cfs and a level of 23.6 feet.
7. The domestic water conditions for 31 days in January were as follows:
  - a. The monthly turbidity average was 0.06 NTU, which meets Public Health Secondary Standards.
  - b. We pumped 235.801 million gallons at an average of 7.606 MGD.
  - c. The maximum metered daily municipal customer use was 8.751 MGD on January 27.
8. The Turbidity Reduction Facility ran 31 days in January. The conditions were as follows:
  - a. Filtered water production was 243.181 million gallons.
  - b. Average monthly source water turbidity was 1.84 NTU.
  - c. Average monthly filtered water turbidity was 0.07 NTU.

9. Supervisors and I spent a lot of time this month developing budget items and prioritizing them for the 16/17 budget process.
10. January 13<sup>th</sup> – 8 people from Essex attended training in Crescent City. The class, Drinking Water Sampling: A Comprehensive Approach was put on by RCAC.
11. January 14<sup>th</sup> –
  - a. Brian Crowell, Structural Engineer with GHD inspected the roof structure of the 1 Mg reservoir. Details in Pat's Engineering report.
  - b. Maintenance Dept. finished installation of a used motor on pump 2-2. Last month I reported the motor "went to ground" and was destroyed.
12. January 19<sup>th</sup> –
  - a. Clean up from storm damage over the weekend. Tree down in park 4 crushed a fence.
  - b. Significant progress made on communications project between Ruth Hydro and Essex on the control network.
13. January 20<sup>th</sup> – Safety Meeting
  - a. WIIPP – Workplace Illness and Injury Prevention Program
  - b. EAP Dam Safety – Went over EAP notification flowcharts and employee response and responsibilities in an event.
  - c. AQMD generator permit – Went over responsibilities in the permits to operate the large generators.
14. January 27<sup>th</sup> –
  - a. The maintenance department inspected the roof (inside) of the 2 Mg CT reservoir.
  - b. I met Tim Woodward (Daqota Systems) and Glenn Bernald (City of Blue Lake) regarding development of the SCADA project to connect their system to our SCADA system for monitoring.
15. January 28<sup>th</sup> & 29<sup>th</sup> – Interviews for the Assistant Maintenance Supervisor position.
16. Surplus Equipment – I propose we surplus the following equipment due to replacement or no longer needed.
  - a. Unit 9 – 1990 Ford F-350 with Utility bed and lumber rack
  - b. Unit 13 – 1999 Ford F-150 Short bed with lumber rack and aluminum cross bed box
  - c. (2) Metal desks with 5 drawers and 1 file drawer.
  - d. (1) Wooden drafting table with 2 drawers
  - e. (1) Card file style filing cabinet
  - f. (1) Fire proof locking file cabinet – needs combination reset, we don't know combination.
  - g. (1) Laminated wood computer station with pull out keyboard shelf.









## Humboldt Bay Municipal Water District Ruth Hydro Production Report - Since June 1983

	<b>Total Kwh Production</b>	<b>Production for Period Ending 12/31/2015</b>	<b>Average Monthly Kwh Production</b>
On Peak	11,313,641		29,009
Part Peak	54,968,844	196,053	140,946
Off Peak	79,016,589	230,392	202,607
Super Off Peak	25,113,232	84,470	64,393
<b>Grand Total</b>	<b>170,412,306</b>	<b>510,915</b>	<b>436,955</b>

Grand Total Revenues      \$8,443,119.58

No. of Months of Operation      390

Average \$/Kwh      \$0.0495

**PACIFIC GAS AND ELECTRIC COMPANY  
STATEMENT OF CAPACITY AND ELECTRIC ENERGY PURCHASED**

19H051

HUMBOLDT BAY MWD

<b>CONFIDENTIAL</b> Documents Submitted Under Pub. Util. Code Section 583 and G.O. No. 66-C Sec. 2.8
--

REMIT CHECK TO:

HUMBOLDT BAY MUNICIPAL WATER DISTRICT  
GENERAL MANAGER  
MS. CAROL RISCHE  
P.O. BOX 95  
EUREKA, CA 95501

MAILING ADDRESS:

HUMBOLDT BAY MWD  
GENERAL MANAGER  
MS. CAROL RISCHE  
P.O. BOX 95  
EUREKA, CA 95501

<b>STATEMENT DATE:</b> 12/31/15	<b>DUE DATE:</b> 1/29/16
<b>CUST. ACCOUNT NO.:</b> 2335114781 <b>LOG NO.:</b> 19H051	<b>INVOICE:</b> 19H051 <span style="border: 1px solid black; padding: 2px;">12315</span> <b>CHANNEL:</b> LJ600B
<b>VENDOR NO.:</b> 1024538 <b>CONTRACT NO.:</b> 19H051	
<b>SUMMARY OF PAYMENT CALCULATION</b>	
<b>Payment Period:</b>	12/1/15 - 12/31/15
<b>Total Energy Payments:</b>	\$14,478.58
<b>Total Curtailment Payments:</b>	\$0.00
<b>Total Capacity Payments:</b>	\$1,279.78
<b>Total Adjustments:</b>	\$0.00
<b>GRAND TOTAL:</b>	<b>\$15,758.36</b>
<b>GROSS GENERATION (KWH):</b>	<b>510,915</b>

Payment computations are in accordance with the Power Purchase Agreement between PG&E and:

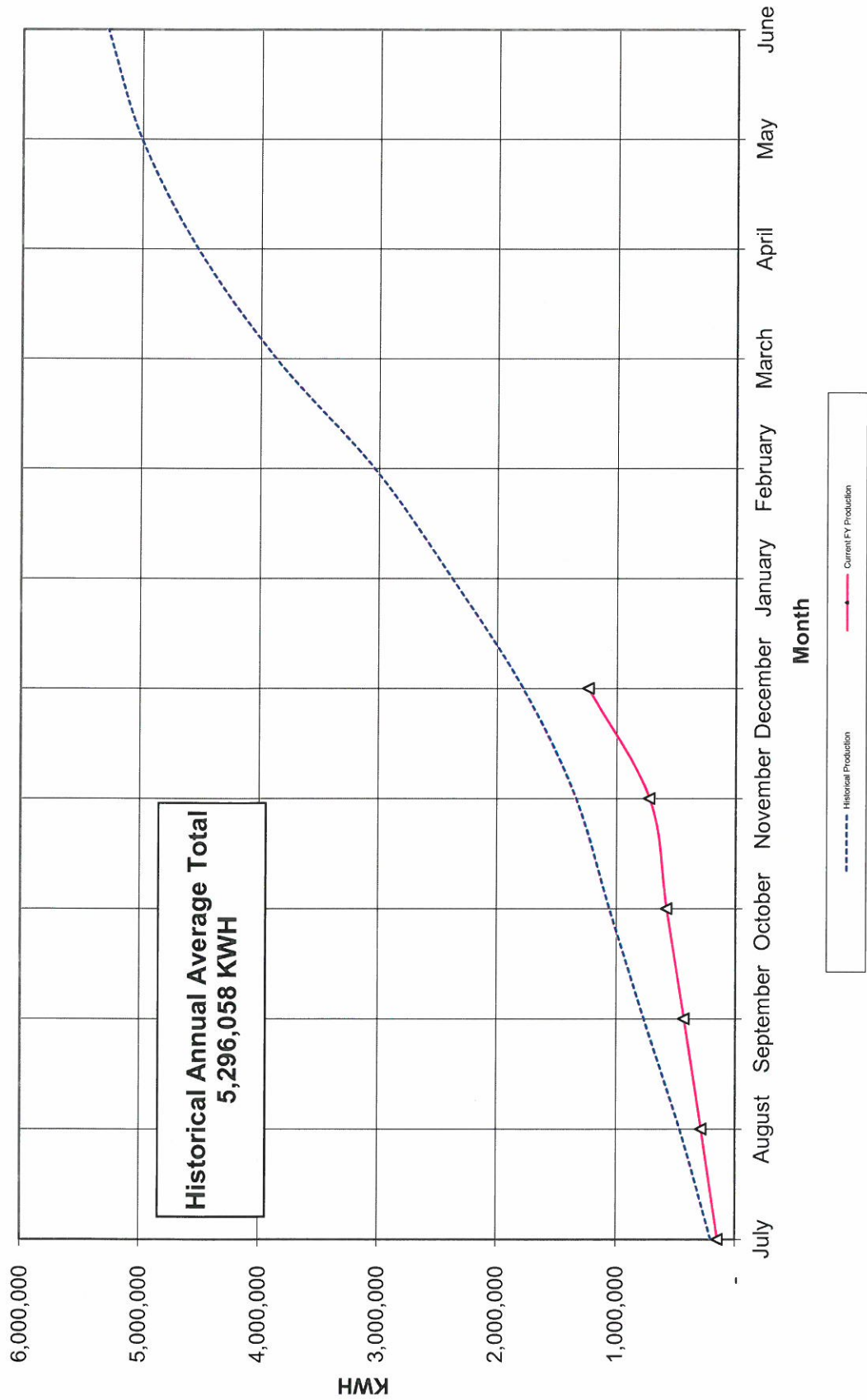
**HUMBOLDT BAY MWD****Dated: 7/26/85**

Please call 1-800-756-PAID if you have 1) not received your check for said amount shown on the statement four (4) days from the "DUE DATE" or 2) any general questions regarding the check.

Please direct any questions regarding the computations relating to this statement or PG&E's application of the provisions set forth in the Power Purchase Agreement to:

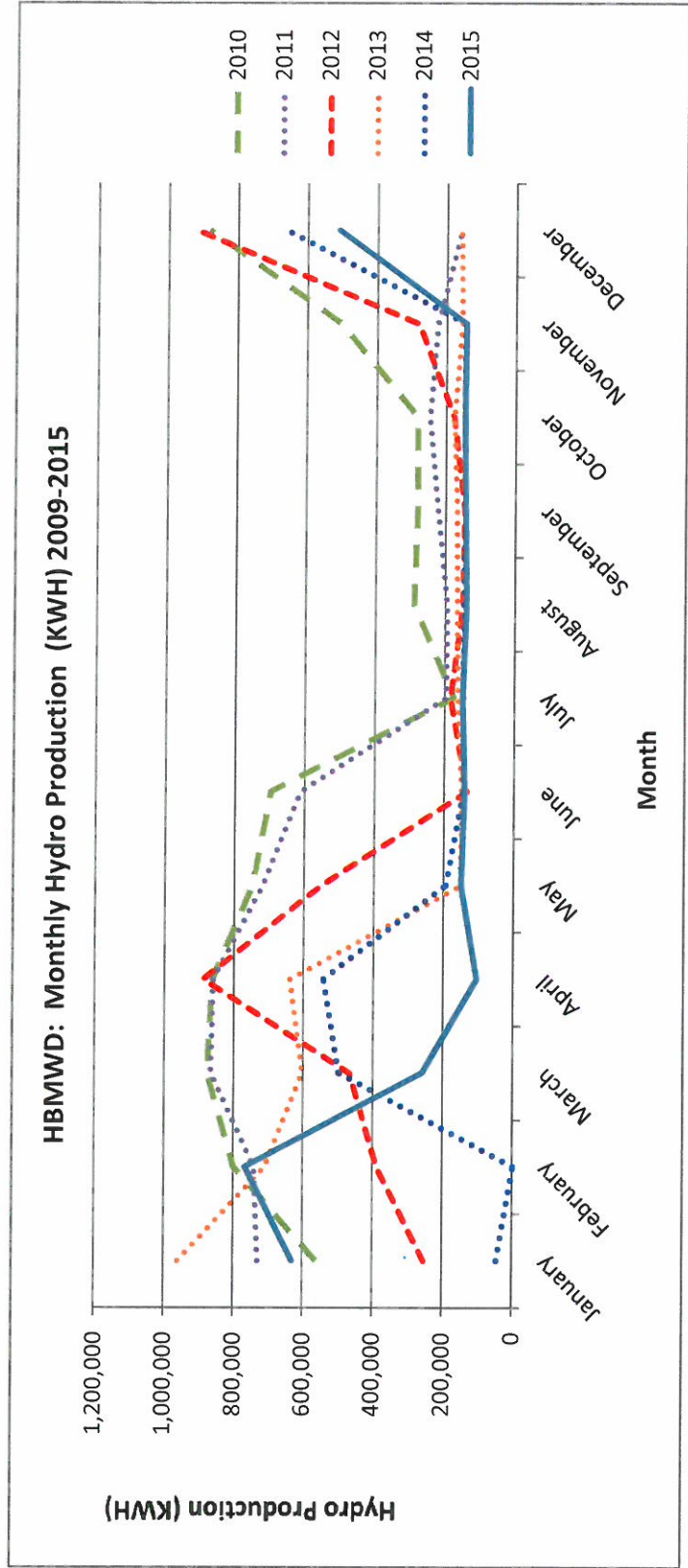
**Contact:** Kimberly Song  
**Dept:** ELECTRIC SETTLEMENTS  
**Phone:** (415)973-5815 ext.  
**Fax:** (415)973-9505 ext.

**Historical vs. Actual Cumulative Production  
Gosselin Hydroelectric Plant @ Ruth Lake  
All Data In Kilowatt Hours**



Humboldt Bay Municipal Water District  
 Monthly Hydro Electric Production (KWH) for CY2010 - 2015

Month	2010	2011	2012	2013	2014	2015
January	563,022	731,895	255,300	962,724	47,002	632,611
February	800,763	743,385	390,898	713,055	0	769,170
March	878,080	868,396	470,351	605,327	501,812	261,555
April	862,910	862,182	892,452	642,402	545,893	106,258
May	749,115	720,776	553,888	152,795	196,968	151,803
June	698,152	613,500	138,181	152,044	147,630	143,055
July	175,606	197,448	186,027	164,775	149,503	150,599
August	290,545	196,872	151,424	168,428	148,220	140,977
September	281,991	224,463	147,850	169,768	145,020	145,468
October	282,249	249,000	179,706	178,812	148,715	147,574
November	504,448	226,807	282,768	157,195	148,816	145,196
December	883,273	159,636	923,766	160,936	665,823	510,915
<b>Total Annual</b>	<b>6,970,154</b>	<b>5,794,360</b>	<b>4,572,611</b>	<b>4,228,261</b>	<b>2,845,402</b>	<b>3,305,181</b>



ACWA



ASSOCIATION OF CALIFORNIA WATER AGENCIES  
**JOINT POWERS**  
INSURANCE AUTHORITY

# **Executive Committee Meeting**

JPIA Executive Conference Room  
2100 Professional Drive  
Roseville, CA 95661

**Tuesday  
February 9, 2016  
8:30 AM**

Chairman: E.G. "Jerry" Gladbach, Castaic Lake Water Agency

Vice-chair: Thomas A. Cuquet, South Sutter Water District

David A. Drake, Rincon del Diablo Municipal Water District

Brent Hastey, ACWA Vice President

David T. Hodgkin, Scotts Valley Water District

W.D. "Bill" Knutson, Yuima Municipal Water District

Melody A. McDonald, San Bernardino Valley Water Conservation District

Charles W. Muse, Helix Water District

J. Bruce Rupp, Humboldt Bay Municipal Water District





## **EXECUTIVE COMMITTEE MEETING**

**EXECUTIVE CONFERENCE ROOM  
2100 Professional Drive  
Roseville, CA 95661  
(800) 231-5742**

[WWW.ACWAJPJA.COM](http://WWW.ACWAJPJA.COM)

### **AGENDA**

**Tuesday, February 9, 2016**

**8:30 AM**

#### **WELCOME**

#### **CALL TO ORDER AND ANNOUNCEMENT OF QUORUM**

**ANNOUNCEMENT RECORDING OF MEETING** This meeting may be recorded to assist in preparation of minutes. Recordings will only be kept 30 days following the meeting, as mandated by the California Brown Act.

#### **PLEDGE OF ALLEGIANCE**

#### **EVACUATION PROCEDURES**

**PUBLIC COMMENT** Members of the public will be allowed to address the Executive Committee on any agenda item prior to the Committee's decision on the item. They will also be allowed to comment on any issues that they wish which may or may not be on the agenda. If anyone present wishes to be heard, please let the Chairman know.

#### **INTRODUCTIONS**

#### **ADDITIONS TO OR DELETIONS FROM THE AGENDA**

<u>Presenter</u>		<u>Page#</u>
	<b>I. <u>CONSENT AGENDA</u></b>	
Gladbach	* A. Approve the minutes of the meeting of November 30, 2015.	<b>1</b>
	B. Approve the JPIA disbursements of: <ul style="list-style-type: none"> <li>• <u>Liability, Property, &amp; Workers' Compensation Claims Payments:</u> November 1-15, 2015; November 16-30, 2015; December 1-15, 2015; December 16-31, 2015; January 1-15, 2016;</li> <li>• <u>Vendor Payments, Employee Benefits Claims Payments, &amp; Payroll:</u> November 1-15, 2015; November 16-30, 2015; December 1-15, 2015; December 16-31, 2015; January 1-15, 2016.</li> </ul>	
Damon	C. Approve Recreational Activities / Special Events.	
Gladbach	D. Approve an excused absence for any Executive Committee member.	
	<b>II. <u>ADMINISTRATION</u></b>	
Gladbach	A. Report on meetings attended on behalf of the JPIA.	
Gladbach	* B. Review and take action on recommendations of the Personnel Committee from its meeting of February 8, 2016.	<b>9</b>
Sells	* C. Review and take action on Executive Committee Per Diem.	<b>11</b>
Sells	* D. Review and possibly take action on Rebranding and Communications Project.	<b>12</b>
Stangel	* E. Review and take action on Emergency PERS Resolution (2016-1).	<b>16</b>
	<b>III. <u>FINANCE</u></b>	
deBernardi	* A. Review and take action on recommendations of the Finance & Audit Committee from its meeting of February 8, 2016.	<b>18</b>
	<b>IV. <u>PROGRAMS</u></b>	
Cuquet	* A. Review and take action on recommendations of the Property Program Committee from its meeting of February 8, 2016.	<b>20</b>

<u>Presenter</u>		<u>Page#</u>
Greenfield	* B. Review recent significant claims activity.	22

#### V. MEMBERSHIP

A. Review and take action on membership applications:

<u>District</u>	<u>TIV's</u>	<u>Payroll</u>	<u>Program Liability Property</u>	<u>Page#</u>
Watkins	* Santa Rosa Regional Resources Authority	\$52,637,864	\$0	23

#### VI. MISCELLANEOUS

Gladbach	A. Discuss future agenda items.	
Sells	* B. CEO update (standing item).	25
Gladbach	* C. Review the availability of the Committee members for upcoming meeting – March 30, 2016.	26

#### VII. CLOSED SESSION

Greenfield  
Announcement of items to be discussed in closed session.

Conference with Legal Counsel (tort liability losses, public liability losses/claims, or workers' compensation liability claims) – Pursuant to Government Code Sec. 54956.95.

1. Chino Grading, Inc. v. Western Municipal Water District
2. South Coast Plaza v. Mesa Water District

#### ADJOURN

\*Related items enclosed.

**Americans With Disabilities Act** – ACWA JPIA conforms to the protections and prohibitions contained in Section 202 of the Americans with Disabilities Act of 1990 and the Federal Rules and Regulations adopted in implementation thereof. A request for disability-related modification or accommodation, in order to participate in a public meeting of the JPIA, shall be made to: Bobbette Wells, Executive Assistant to the CEO, ACWA JPIA, P. O. Box 619082, Roseville, CA 95661-9082; telephone (916) 786-5742. The JPIA's normal business hours are Monday – Friday, 7:30 a.m. to 4:30 p.m. (Government Code Section 54954.2, subdivision. (a)(1).)

Written materials relating to an item on this Agenda that are distributed to the JPIA's Executive Committee within 72 hours before it is to consider the item at its regularly scheduled meeting will be made available for public inspection at ACWA JPIA, 2100 Professional Drive, Roseville, CA 95661-3700; telephone (916) 786-5742. The JPIA's normal business hours are Monday – Friday, 7:30 a.m. to 4:30 p.m.

ACWA 2016 Spring Conference & Exhibition  
Monterey Marriott & Portola Hotel

MAY  
3-6  
2016

Register online @ [acwa.com](http://acwa.com)

Regular registration and cancellation deadline is April 8, 2016 • 4:30 p.m. (PST)

**WHO IS ELIGIBLE FOR "ACWA ADVANTAGE" PRICING?**

**ACWA Advantage pricing is available to the following registrants:**

- An officer or director of an ACWA member agency.
- A person directly employed by an ACWA public agency member, affiliate or associate organization. This does not include independent contractors, service providers, or third-party vendors.
- Any ACWA board member whose fee is paid for by member agency.
- Any state or federal administrative or legislative personnel in elected, appointed or staff positions.
- Staff of ACWA/JPIA and Water Education Foundation.
- Any individual or honorary life member of ACWA.

**ONE-DAY REGISTRATION**

By choosing a Wednesday registration, you are entitled to attend the Welcome Reception on Tuesday evening and all programs on Wednesday. By choosing a Thursday registration, you are entitled to attend all programs on Thursday and the capability to attend the Friday closing breakfast, with the purchase of a meal ticket.

**MEMBERSHIP INFORMATION – *Become a Member & Save on ACWA Events***

If you are interested in learning more about becoming an Associate Friend of ACWA, contact Jacob Rowe at [jacobr@acwa.com](mailto:jacobr@acwa.com). For public agency membership, please contact Tiffany Giammona at [tiffanyg@acwa.com](mailto:tiffanyg@acwa.com).

**CANCELLATIONS & CHANGES**

All registration changes and cancellations must be made in writing by the event registration deadline. Valid cancellation requests will receive a refund of any registration fees paid minus a \$75 processing charge. For payments originally made by credit card, refunds can be issued back into the credit card within 60 days. Otherwise, a refund will be issued by check. No refunds or registration changes will be granted after the registration deadline. Submit request in writing to Teresa Taylor at [teresat@acwa.com](mailto:teresat@acwa.com).

**SUBSTITUTIONS**

Event registrations are transferable from one participant to another within the same organization. Please submit your request in writing before the event registration deadline to Teresa Taylor at [teresat@acwa.com](mailto:teresat@acwa.com). Include the original registrant's name, the new person's name, title and email address with your request. After the registration deadline, substitutions will be handled on-site. Only one substitution is permitted per original registrant. The individual submitting the substitution request is responsible for all financial obligations (including any balance due) associated with the original registration. There is no fee to transfer an eligible registration.

**SPECIAL REQUESTS & ACCOMMODATIONS**

Special requests must be submitted in writing to Teresa Taylor at [teresat@acwa.com](mailto:teresat@acwa.com). Participants are encouraged to submit special requests as soon as possible.

If you have a disability that requires an accommodation, please contact Melanie Medina at [melaniem@acwa.com](mailto:melaniem@acwa.com) or call toll free at (888) 666-2292 to discuss your needs.

**REFUNDS**

Except as otherwise provided in this document, all payments and fees are nonrefundable after the registration deadline.

**MEAL TICKETS**

After registration deadline, meal tickets are not eligible for exchange, refund or credit.

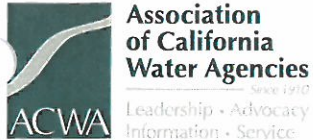
**NONATTENDANCE**

Registrants who fail to attend the event, in part or in whole, are not eligible for a refund or credit and will be billed for any balance due.

**GUEST REGISTRATION**

Guest registration is available to a spouse, companion or guest of an ACWA event registrant. Guest registration is not available to any employees of a public agency, associate or affiliate/mutual water company. Guest registration is also not available to anyone with a professional reason to attend for purposes of learning or business. The guest registration includes admission to the Exhibit Hall, the opening reception and the ability to purchase meal tickets and attend meal functions. **Guest registrants are not eligible for cash or prize drawings.**

## PRICING REFERENCE SHEET



# ACWA 2016 Spring Conference & Exhibition

## REGISTRATION, MEALS & HOTEL PRICING

Monterey Marriott & Portola Hotel

MAY  
3-6  
2016

Register online @ [acwa.com](http://acwa.com)

Regular registration and cancellation deadline is April 8, 2016 • 4:30 p.m. (PST)

**NEED TO REGISTER ON SOMEONE ELSE'S BEHALF? YOU CAN NOW SIGN-IN AS YOURSELF** - After you've logged-in, you can select from a list of people affiliated with your company and proceed to register him/her for the event. If the registrant is not listed, you will have the opportunity to create a Portal profile for him/her before registering.

REGISTRATION FEES & OPTIONS	REGULAR	ONSITE
<b>Advantage</b> (For ACWA public agency members, affiliates & associates ONLY) <span style="float: right;">(ends 4/8/16)</span>		
Full Conference Registration & Meals Package .....	\$695	Not Avail.
Full Conference Registration Only (meals sold separately) .....	\$535	\$560
One-Day Conference Registration (meals sold separately): Wednesday 5/4 -OR- Thursday 5/5 .....	\$300	\$325
<i>Wednesday registration includes Welcome Reception on Tuesday evening.</i>		
<i>Thursday registration includes ability to purchase a ticket for Friday breakfast.</i>		
<b>Standard</b> (Applies to non-members of ACWA)		
Full Conference Registration Only (meals sold separately) .....	\$805	\$830
One-Day Conference Registration (meals sold separately): Wednesday 5/4 -OR- Thursday 5/5 .....	\$450	\$475
<i>Wednesday registration includes Welcome Reception on Tuesday evening.</i>		
<i>Thursday registration includes ability to purchase a ticket for Friday breakfast.</i>		
<b>Guest</b> (Guest registration is not available to anyone with a professional reason to attend.)		
Guest Conference Registration (meals sold separately) .....	\$45	\$45

MEAL FUNCTIONS	REGULAR	ONSITE
<b>Wednesday – May 4</b>		
Opening Breakfast .....	\$45	\$50
Wednesday Luncheon .....	\$50	\$55
<b>Thursday – May 5</b>		
Networking Continental Breakfast .....	\$35	\$40
Thursday Luncheon .....	\$50	\$55
Thursday Dinner .....	\$65	\$70
<b>Friday – May 6</b>		
Friday Breakfast .....	\$45	\$50

### HOTEL INFORMATION *Reservations will not be accepted until February 22, 2016.*

**You must be registered for the ACWA conference in order to receive hotel reservation information and conference special room rate. Conference special rate is available February 22 – April 11, based on availability.**

#### Special Hotel Rates

**Monterey Marriott Hotel** ..... Single/Double \$205  
Subject to 14.345% tax + \$2.00 tourism fee (per room per night)

**Portola Hotel Monterey** ..... Single/Double \$203  
Subject to 14.345% tax + \$2.00 tourism fee (per room per night)

**Hotel Pacific** ..... Single/Double \$240  
Subject to 14.345% tax + \$1.00 tourism fee (per room per night). Hotel rate includes breakfast.

#### Important Dates:

For those **registering for conference prior to February 22**, hotel information will be provided via e-mail on February 22.

For those **registering for conference from February 22 to April 11**, your confirmation e-mail will include hotel reservation information and an opportunity to receive a conference special hotel rate.

#### Hotel Reservation Questions?

Call each hotel directly.

**Questions?** Contact us at 916.441.4545, toll free 888.666.2292. Conference terms and conditions available at [acwa.com](http://acwa.com) in the event section.



# ACWA 2016 Spring Conference & Exhibition

## PRELIMINARY AGENDA

Monterey Marriott & Portola Hotel



### ACWA/JPIA - MONDAY, MAY 2

- 8:30 – 10:00 AM**
  - Employee Benefits Program Committee Meeting
- 10:15 – 11:15 AM**
  - ACWA/JPIA Executive Committee
- 1:30 – 4:00 PM**
  - ACWA/JPIA Board of Directors
- 4:00 – 5:00 PM**
  - ACWA/JPIA Town Hall
- 5:00 – 6:00 PM**
  - ACWA/JPIA Reception

### TUESDAY, MAY 3

- 8:00 AM – 6:00 PM**
  - Registration
- 8:30 AM – 3:00 PM**
  - ACWA/JPIA: Seminars
- 10:00 – 11:45 AM**
  - Groundwater Committee
  - Water Quality Committee
- 11:00 AM – Noon**
  - Outreach Task Force
- Noon – 2:00 PM**
  - ACWA 101 & Luncheon
  - Committee Lunch Break
- 1:00 – 2:45 PM**
  - Energy Committee
  - Finance Committee
  - Scholarship & Awards Subcommittee
  - Water Management Committee
- 2:00 – 4:00 PM**
  - SDLF Special District Administrator Certification Test
- 1:30 – 3:30 PM**
  - ACWA/JPIA: Sexual Harassment Prevention for Board Members & Managers (AB 1825)
- 3:00 – 4:45 PM**
  - Communications Committee
  - Federal Affairs Committee
  - Local Government Committee
  - Membership Committee
- 5:00 – 6:30 PM**
  - Welcome Reception in the Exhibit Hall

### WEDNESDAY, MAY 4

- 7:30 AM – 5 PM**
  - Registration
- 8:00 – 9:45 AM**
  - Opening Breakfast *(Ticket Required)*
- 9:00 AM – Noon & 1:30 – 5:00 PM**
  - Exhibit Hall
- 10:00 – 11:30 AM**
  - Attorneys Program
  - Energy Committee Program
  - Exhibitor Technical Presentations
  - Finance Program
  - Region Issue Forum
  - Statewide Issue Forum
- 11:30 – 11:45 AM**
  - Prize Drawing in the Exhibit Hall
- 11:45 AM – 1:45 PM**
  - General Session & Luncheon *(Ticket Required)*
- 2:00 – 3:15 PM**
  - Aquatic Resources Subcommittee
  - Attorneys Program
  - Exhibitor Technical Presentation
  - Region Program
  - Statewide Issue Forum
  - Water Industry Trends Program
- 3:30 – 4:45 PM**
  - Communications Committee Program
  - Energy Committee Program
  - Exhibitor Technical Presentation
  - Finance Program
  - Statewide Issue Forum
  - Water Industry Trends Program
- 4:00 – 6:00 PM**
  - Legal Affairs Committee
- 5:30 – 7:00 PM**
  - CH2M Hosted Reception

### THURSDAY, MAY 5

- 7:30 AM – 4 PM**
  - Registration
- 8:00 AM – Noon**
  - Exhibit Hall

### 8:00 – 9:15 AM

- Networking Continental Breakfast *(Ticket Required)*
- 9:30 – 11:00 AM**
  - Attorneys Program
  - Exhibitor Technical Presentations
  - Finance Program
  - Region Issue Forum
  - Statewide Issue Forum
  - Water Industry Trends Program
- 9:30 - 11:45 AM**
  - Ethics Training (AB 1234) - *Limited Seating*
- 11:00 – 11:30 AM**
  - Prize Drawings in the Exhibit Hall
- 11:45 AM – 1:45 PM**
  - General Session & Luncheon *(Ticket Required)*
- 2:00 – 3:15 PM**
  - Attorneys Program
  - Exhibitor Technical Presentations
  - Federal Issues Forum
  - Town Hall
  - Water Industry Trends Program
- 3:30 – 5 PM**
  - Regions 1 – 10 Membership Meetings
- 5:30 – 6:30 PM**
  - New Water Professionals No-Host Reception
- 7:00 – 9:30 PM**
  - Dinner & Entertainment *(Ticket Required)*

### FRIDAY, MAY 6

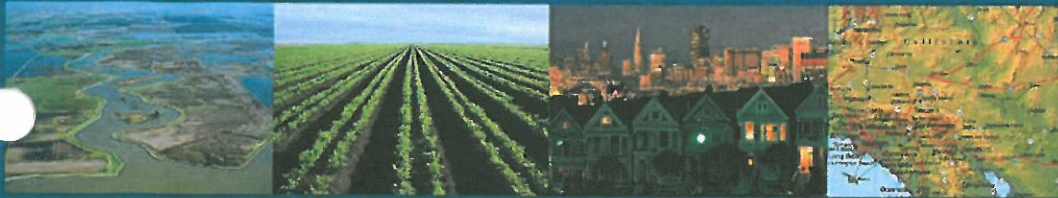
- 8:00 – 9:30 AM**
  - Registration
- 8:30 – 10:00 AM**
  - ACWA's Hans Doe Past Presidents' Breakfast in Partnership with ACWA/JPIA *(Ticket Required)*

### OTHER EVENTS

#### THURSDAY, MAY 5

- 6:45 – 8:30 AM**
  - San Joaquin Valley Agricultural Water Committee

All conference programs are subject to change.



**Association  
of California  
Water Agencies**  
*Since 1910*  
Leadership • Advocacy  
Information • Service

**ACWA Region 1  
Board  
2016-2017**

**Chair:**

**Judy Mirbegan,**  
Hidden Valley Lake CSD

**Vice Chair:**

**Dennis Mayo,**  
McKinleyville CSD

**Board Members:**

**Michael Ban,**  
Marin MWD

**David L. Bentley,**  
North Marin WD

**David Guhin,**  
City of Santa Rosa

**Brad Sherwood,**  
Sonoma County WA

**Sheri Woo,**  
Humboldt Bay MWD

**ACWA REGION 1 BOARD MEETING / ORIENTATION**

**January 25, 2016 | 12:00 – 2:00 p.m.**

**Hidden Valley Lake CSD**

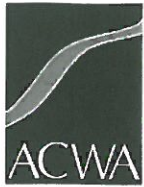
**19400 Hartmann Rd., Hidden Valley Lake, CA 95467**

**Call-in: (605) 477-2100 / Access: 795297#**

**AGENDA**

- |   |                     |
|---|---------------------|
| I. Call to Order, Welcome                           | Chair Judy Mirbegan |
| II. 2016-17 Board Orientation                       | Katie Dahl          |
| III. Region 1 Rules & Regulations                   | Dahl                |
| IV. Appointments                                    | Board               |
| • Alternate Chair/Vice Chair                        |                     |
| • Outreach Captain                                  |                     |
| • Committee Reporters                               |                     |
| ○ Business Development                              | ○ Legal Affairs     |
| ○ Communications                                    | ○ Local Government  |
| ○ Energy  | ○ Membership        |
| ○ Federal Affairs                                   | ○ State Legislative |
| ○ Finance   | ○ Water Management  |
| ○ Groundwater                                       | ○ Water Quality     |
| V. Develop 2016-2017 Term Region 1 Work Plan        | Board               |
| • Region Member Survey                              |                     |
| VI. Review Region 1 Legislative & Regulatory Issues | Board               |
| VII. Discuss Potential 2016 Region Activities       | Board               |
| • Conference Calls                                  |                     |
| • Region Event                                      |                     |
| • Fall Conference Program                           |                     |
| VIII. Additional Discussion Items                   | All                 |

Katie Dahl  
Regional Affairs Representative  
Association of CA Water  
Agencies  
[katied@acwa.com](mailto:katied@acwa.com)



**Association  
of California  
Water Agencies**  
*Since 1910*  
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## ACWA BOARD OF DIRECTORS

ACWA Board Room  
910 K Street  
Sacramento, California

### AGENDA

*Kathleen J. Tiegs, President*  
*Brent Hastey, Vice President*  
*Timothy Quinn, Executive Director*

**Friday, January 29, 2016**

**9:00 A.M.**

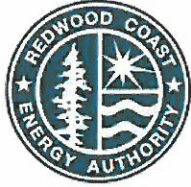
**Board Room**

		PAGE
I. CALL TO ORDER	Kathleen Tiegs	—
A. Pledge of Allegiance		
B. Approval of Excused Absences—Attendance Sheet Circulated		3
C. Welcome New Board Members / Introduction of Guests		
II. APPROVAL OF AGENDA AND ADDENDUM ITEMS	Kathleen Tiegs	—
III. PRESIDENT’S REPORT		
A. Oral Report	Kathleen Tiegs	4
B. Executive Committee Report	Brent Hastey	5
IV. EXECUTIVE DIRECTOR’S REPORT	Timothy Quinn	6
A. Executive Director’s Report		
B. Employee of the Year – Oral Report		
V. BOARD ACTION / DISCUSSION ITEMS		
A. Approval of Plan / Budget to Support President Tiegs’ “Meet the President” Initiative	Timothy Quinn	14
B. Approval of Minutes: November 20, 2015 and January 6, 2016	Kathleen Tiegs	16
C. Nomination/Election of 2016-2017 At-Large Executive Committee Members	Kathleen Tiegs	28
VI. ACTION/DISCUSSION ITEMS		
A. Executive Department Initiatives		—
1. Finance Committee Report		—
a) Third Quarter 2015 Financial Statements	Tom Scaglione	30
b) Audit Communication Planning Letter	Tom Scaglione	36
2. Sustainable Groundwater Management Act (SGMA) Implementation Policy Group Update	Kathleen Tiegs	38
3. ACWA Water Transfers Work Group	T. Quinn/J. Coleman	40
4. Water Storage Integration Work Group	T. Quinn / A. Robin	42
5. Article X Amendment Update	Timothy Quinn	43



		PAGE
B.	Government Relations Team Initiatives	Cindy Tuck –
1.	State Legislative Update	Bartkiewicz/Ridderbusch 57
2.	Federal Legislative Update	Steve LaMar 62
a)	National Water Resources Association (NWRA) Update	David Reynolds 65
3.	Legal Affairs Update	Jennifer Buckman 66
a)	Request for Assistance:	
	(1) <i>Hawai'i Wildlife Fund v. County of Maui (Approval)</i>	
4.	State Regulatory Issues Update	Adam Robin 72
5.	Federal Regulatory Issues Update	David Reynolds 77
6.	Special Projects Update	David Bolland 79
C.	External Affairs and Member Services Team Initiatives	Jennifer Persike –
1.	Integrated Marketing, Communications, Outreach Plan	Jennifer Persike 85
a)	Member Survey Highlights	
2.	California Water Action Plan / January 14 CA Water 2.0 Event	Jennifer Persike 88
3.	ACWA Drought and External Affairs Efforts	Jennifer Persike –
a)	ACWA Drought Response – Outreach Update	93
b)	Save Our Water January Update	95
4.	Communications and Outreach Update	–
a)	Communications Committee Actions and Activities	Sue Stephenson 98
b)	Communications Department Activities	Lisa Lien-Mager 100
c)	ACWA Media Efforts	Lisa Lien-Mager 102
5.	Member Services and Events Update	–
a)	Membership Committee Actions and Activities	Joone Lopez 103
b)	Business Development Committee Actions and Activities	Shauna Lorange 104
c)	Member Services Group Activity Report	Tiffany Giammona 106
d)	ACWA Conferences and Events	Paula Currie 108
D.	Board of Directors' Initiatives and Reports	–
1.	Resolution Commending Dan Masnada	Kathleen Tiegs 110
2.	Resolution Commending Joseph L. Campbell	Kathleen Tiegs 112
3.	ACWA Region Activity Report	Region Chairs 114
4.	ACWA Committee Updates	Committee Chairs 115
5.	ACWA / JPIA Update	T. Cuquet/J. Gladbach 116
6.	2016 ACWA Board of Directors' Meeting Schedule	Donna Pangborn 117
VII.	OLD BUSINESS	
A.	Other Issues Board Members Wish to Discuss	Kathleen Tiegs –
VIII.	NEW BUSINESS	
B.	Agenda Items / Highlights for March Meeting Activities	Kathleen Tiegs –
–	Strategic and Business Plan Workshop: March 3, 2016	
–	Regular Board Meeting: March 25, 2016	
IX.	CLOSED SESSION ITEMS	
A.	Executive Director's 2015 Performance Evaluation and Approval of of Compensation Adjustment as Recommended by the Executive Committee	Kathleen Tiegs
X.	ADJOURNMENT	Kathleen Tiegs –

RCEA, RREDC, LAFCO



# Redwood Coast Energy Authority

633 3<sup>rd</sup> Street

Eureka, CA 95501

Phone: (707) 269-1700 Toll-Free (800) 931-RCEA Fax: (707) 269-1777

E-mail: [info@redwoodenergy.org](mailto:info@redwoodenergy.org) Web: [www.redwoodenergy.org](http://www.redwoodenergy.org)

## MEETING AGENDA

**Redwood Coast Energy Resource Center  
633 3<sup>rd</sup> Street, Eureka, CA 95501**

**January 11, 2016  
Monday, 3:15 p.m.**

Redwood Coast Energy Authority will accommodate those with special needs. Arrangements for people with disabilities who attend RCEA meetings can be made in advance by contacting Katey Schmidt at 269-1700 by noon the day of the meeting.

### I. ROLL CALL

### II. REPORTS FROM MEMBER ENTITIES

### III. ORAL COMMUNICATIONS

This time is provided for people to address the Board or submit written communications on matters not on the agenda. At the conclusion of all oral & written communications, the Board may respond to statements. Any request that requires Board action will be set by the Board for a future agenda or referred to staff.

### IV. CONSENT CALENDAR

All matters on the Consent Calendar are considered to be routine by the Board and are enacted on one motion. There is no separate discussion of any of these items. If discussion is required, that item is removed from the Consent Calendar and considered separately. At the end of the reading of the Consent Calendar, Board members or members of the public can request that an item be removed for separate discussion.

- A. Approve Minutes of December 14, 2015 Board Meeting.
- B. Approve attached Warrants.
- C. Accept attached Financial Reports
- D. Approve Memorandum of Understanding with Runyon, Saltzman, Einhorn, Inc. for the 2016 Energy Upgrade CA Community Outreach Ambassador Program.

### V. REMOVED FROM CONSENT CALENDAR ITEMS

Items removed from the Consent Calendar will be heard under this section.

### VI. NEW BUSINESS

- A. RCEA FY15-16 Budget Adjustments

Approve proposed revisions to the RCEA Fiscal Year 2015-16 Annual Budget.

- B. Community Choice Aggregation

Introduce Ordinance No. 2016-1 Authorizing the Implementation of a Community Choice Aggregation Program by RCEA as the Community Choice Aggregator.

- C. Executive Director 2016 Work Plan  
Approve 2016 Executive Director Work Plan

## VII. ADJOURNMENT

***The next RCEA Board of Directors Business Meeting is scheduled for  
Monday, February 22<sup>nd</sup>, 2016 at 3:15p.m.***



Redwood Region  
Economic Development  
Commission

**REDWOOD REGION ECONOMIC DEVELOPMENT COMMISSION**  
520 E Street Eureka, California 95501 (707) 445-9651 FAX (707) 445-9652

**Regular meeting of the Board of Directors**  
At the Prosperity Center 520 E Street, Eureka, CA  
**January 25, 2016 at 6:30 pm**

**AGENDA**

- I. **Call to Order & Flag Salute**
- II. **Approval of Agenda and Minutes**
  - A. Approval of Agenda for January 25, 2016
  - B. Approval of Minutes of the Board of Directors for November 23, 2015
- III. **Public Input – for non-agenda items**
- IV. **Consent Calendar**
  - A. Acceptance of Agency-wide Financial Reports: November 30, 2015; December 31, 2015
- V. **Reports – No Action Required**
  - A. Loan Portfolio Report: November 30, 2015; December 31, 2015
  - B. Executive Director's Report
  - C. Minutes of Executive Committee Meeting: August 24, 2015 information only
- VI. **Old Business**
  - None
- VIII. **New Business**
  - A. Election of Board Officers and Executive Committee Members
  - B. Appointment of Board Secretary
  - C. Authorization of Member of Board of Directors as new Signatory on Tri Counties Bank Accounts
  - D. Approval of FY 2014/2015 Audit
- IX. **Member Reports**
  - A. Humboldt Bay Harbor, Recreations & Conservation District
  - B. Orick CSD
  - C. Fortuna
  - D. Trinidad
- X. **Agenda/Program Requests** for future Board of Directors Meetings
- XI. **Adjourn**

*The Redwood Region Economic Development Commission will, on request, make agendas available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and the federal rules and regulations adopted in implementation thereof. Individuals who need this agenda in an alternative format or who need a disability-related modification or accommodation in order to participate in the meeting should contact the Board Secretary at (707) 445-9651. Notification 48 hours prior to the meeting will enable the Commission to make reasonable arrangements for accommodations.*

**MEMBER AGENCIES**

City of Arcata • City of Blue Lake • City of Eureka • City of Ferndale • City of Fortuna • City of Rio Dell • City of Trinidad  
County of Humboldt • Humboldt Bay Harbor, Recreation and Conservation District • Humboldt Bay Municipal Water District  
Humboldt Community Services District • Manila Community Services District • McKinleyville Community Services District  
Orick Community Services District • Redwoods Community College District • Hoopa Valley Tribe  
Willow Creek Community Services District • Orleans Community Services District • Redway Community Services District

## **REGULAR MEETING AGENDA**

**Wednesday, January 20, 2016**  
Board of Supervisors Chamber  
Humboldt County Courthouse, Eureka

**1. CALL TO ORDER – 9:00 AM**

**2. FLAG SALUTE**

**3. ROLL CALL**

**4. PUBLIC APPEARANCES**

Any member of the public may address the Commission concerning a non-agenda item during this time. However, the Commission cannot discuss or take action on a matter not listed on the agenda.

**5. CONSENT CALENDAR**

All consent items are considered routine and may be enacted by the Commission under one motion. With concurrence of the Chair, a Commissioner may request that an item be removed for discussion.

**A) Approval of November 18, 2015 Regular Meeting Minutes**

**B) Approval of Meeting Calendar for 2016**

**6. BUSINESS ITEMS**

Business items are for review and possible action by the Commission.

**A) Designation of Chair and Vice Chair for 2016**

**B) Fiscal Year 2015-16 Mid-Year Budget Report**

**C) MSR and SOI Work Plan and Schedule**

Americans with Disabilities Act: Humboldt LAFCo meetings are held in a wheelchair accessible facility, and disabled parking is available in the lot on K Street, between Fourth and Fifth Streets. Individuals requiring special accommodations to participate in this meeting are requested to contact the Humboldt LAFCo office at 445-7508, at least 48 hours prior to commencement of the meeting.

**7. PUBLIC HEARING ITEMS**

Any member of the public may address the Commission on scheduled public hearing items. The Chair may regulate the order of such presentations and reserves the right to limit the time allowed for each person to speak.

**None**

**8. INFORMATIONAL AND CONTINUING ITEMS**

An applicant or member of the public may receive permission to provide comments on an item at the discretion of the Chair. General direction to staff for future action may be provided by Commissioners.

**A) Summary of Indianola Water Services Meeting**

**B) Special District Member Nomination and Election**

**C) Status of Current and Future Proposals**

**9. EXECUTIVE OFFICER'S REPORT**

The Commission will receive a verbal report from the Executive Officer regarding current staff activities, communications, budget status, studies, legislation, and special projects.

**A) CALAFCO Bulletin on SB 239 Implementation**

**10. WRITTEN CORRESPONDENCE**

Correspondence received before 12:00 p.m. the Wednesday prior to the Commission meeting will be included on the agenda. Any supplemental writings or documents submitted to the Commission after the posting of the agenda will be available for public review at the LAFCo office, located at 1125 16<sup>th</sup> Street, Suite 202, Arcata. In addition, such writings or documents will be made available to the Commission and public for review at the meeting.

**None**

**11. ADJOURNMENT**

The next Humboldt LAFCo meeting will be held on March 16, 2016, at 9:00 a.m. in the Board of Supervisors Chamber, Humboldt County Courthouse, Eureka.