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**ORDER DETAILS**

**Order Number:**  
IPL0098326  
**External Order #:**  
347460  
**Order Status:**  
Submitted  
**Classification:**  
Legals & Public Notices  
**Package:**  
MOD - Legal Ads 2+x  
**Final Cost:**  
1,513.74  
**Payment Type:**  
Account Billed  
**User ID:**  
IPL0040329

**ACCOUNT INFORMATION**

CENTRAL CALIFORNIA IRRIGATION DISTRICT IP  
1335 WEST "I" STREET  
LOS BANOS, CA 93635  
209-826-1421  
cguintini@ccidwater.org  
CENTRAL CALIFORNIA IRRIGATION DISTRICT

**TRANSACTION REPORT**

**Date**  
November 11, 2022 3:11:50 PM EST  
**Amount:**  
1,593.27  
**Date**  
November 14, 2022 7:00:29 PM EST  
**Amount:**  
(79.53)

**SCHEDULE FOR AD NUMBER IPL00983260**

November 16, 2022  
The Modesto Bee  
November 23, 2022  
The Modesto Bee  
November 30, 2022  
The Modesto Bee

**PREVIEW FOR AD NUMBER IPL00983260****SECTION 00 11 13  
REQUEST FOR BIDS**

In general, the work consists of installation of water conveyance and recharge facilities including clearing and grubbing in preparation for new conveyance facilities. The facilities include a 48-inch diameter turnout from Orestimba Creek, a 35 cfs pump station, a 36-inch diameter pipeline, bore and jacking a 48-inch steel pipe under Stuhr Road, reconstruction of the Delta Mendota Canal Turnout 51.65L, construction of a concrete distribution box with a 42-inch Diameter pipe, and construction of recharge basins.

Sealed bids will be received by the Central California Irrigation District (CCID or District) prior to 2:00 p.m. (local time) on Thursday, December 15, 2022 at CCID, 1335 West I Street, Los Banos, CA 93635, and following said deadline all bids will be publicly opened and read. Bids shall be submitted in a sealed envelope with the name of the bidder, the name of the project and the statement "**Do Not Open Until the Time of Bid Opening.**" Bids received after said deadline will be returned unopened to the bidder.

**A mandatory pre-bid meeting and project site tour will be held on Tuesday, December 6, 2022 at 10:30 am** beginning at the Orestimba Creek turnout, 300 feet north of the intersection of Stuhr Road and Bell Road on Bell Road. Contractors shall personally examine the project site prior to bidding. Bidding Documents may be obtained in electronic format only from Provost & Pritchard Consulting Group at no charge. **Interested parties must contact Donna Bond at (559) 449-2700, or dbond@ppeng.com to register as a plan holder and to receive the bid documents.** Note that bidders must be registered with Provost & Pritchard Consulting Group as a planholder in order to receive notices and addenda.

Prevailing Wage Rates: Pursuant to Section 1770, California Labor Code, the successful Bidder shall pay not less than the prevailing rate of per diem wages as determined by the Director of California Department of Industrial Relations. A copy of such prevailing rate is on file at the offices of the District, which copy will be made available for examination during business hours to any party on request. Prevailing wage rate information is also available on the internet at the following website address: <http://www.dir.ca.gov/dlsr/PWWD>.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1726.5.

Bidders shall furnish a Bid Security with their Bidder's Proposal in the amount of 10% of the base bid amount.

OWNER reserves the right after opening Bids to reject any or all Bids, to waive any informally or non-responsiveness in a Bid, or to make award to the lowest responsive, responsible Bidder and reject all other Bids, as it may best serve the interest of the OWNER.

Contractor's License Classification: In accordance with the provisions of California Public Contract Code, Section 3300, CCID has determined that bidder shall possess a valid **Class A Contractor's License** issued by the State of California at the time of Bid opening and for the duration of the contract. The General Contractor or the General Contractor's Subcontractors performing the associated work are required to possess a Class C-10 and Class C-57 Contractor's License. Failure to possess the specified licenses shall render the Bid as non-responsive and shall act as a bar to award of the contract to any bidder not possessing said license at the time of Bid opening. The Contractors' State License Board may be contacted at 9821 Business Park, Sacramento, CA 95827; PO Box 26000, Sacramento, CA 95826; (900) 321-2752.

IPL0098326  
Nov 16,23,30 2022

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<b>DEL PUERTO CANYON RESERVOIR</b>	Progress Report No.: PR-04
<b>DESIGN OF DAMS AND APPURTENANT STRUCTURES</b>	Prepared by: G. Rousset
Reporting Period: September 3, 2022 through September 30, 2022	Date: 10/21/2022

**ACTIVITIES DURING REPORTING PERIOD**

**Task 1 – Project Administration**

- Prepared for and attended biweekly status meetings with Program Team, prepared meeting notes, and maintained action item list.
- Prepared progress report and submitted with invoice.
- Held weekly internal status meetings with TGP technical staff involved in the work to monitor progress and address issues, as necessary.
- Secured permits from Stanislaus County for drilling PG&E tower borings.
- Provided additional information to ICF so they could complete the permit applications for the Phase 2 geotechnical explorations scheduled for 2023.

**Task 3 – Geotechnical Evaluation**

- Continued detailed geological mapping in conjunction with explorations.
- Completed sonic drilling in borrow and landslide areas. A total of 13 borings were drilled and two piezometers were installed.
- Continued mud rotary drilling and rock coring at the structures. Seven borings were completed during the reporting period: 2 at Saddle Dam 1, 1 each at the Main Dam, inlet/outlet structure, and tunnel alignment, and 2 at the Main Dam abutments. Two piezometers were installed and most of the borings included downhole geophysical logging and/or packer testing.
- Excavated and logged 6 test pits in the borrow areas and 7 short test trenches at Saddle Dam 1.
- Participated in site visit by DSOD to observed the drilling operations and the excavated trenches at Saddle Dam 1, and review the rock cores recovered from the borings.
- Selected specimens from the sonic brings for laboratory testing and started index property testing of potential fill materials.
- Started drafting boring logs using gINT.
- Initiated work on the Ground Motion Study.

**Task 4 – Preliminary Design (30% Design)**

- Started development of design criteria and materials for the meeting of the Technical Review Board scheduled for October 26 to 28, 2022.

**SIGNIFICANT ISSUES ENCOUNTERED / ADDRESSED**

None during reporting period.

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**ACTIVITIES PLANNED FOR NEXT REPORTING PERIOD (thru October 28, 2022)**

**Task 1 – Project Administration**

- Prepare for and attend biweekly status meetings with Program Team, prepare meeting notes, and maintain action item list.
- Monitor weekly progress and address issues, as necessary.
- Address special requests from Program Team.

**Task 3 – Geotechnical Evaluation**

- Complete Phase 1 geotechnical explorations.
- Continue laboratory index property testing of selected specimens from borrow and landslide areas.
- Start summarizing results of field and laboratory testing.
- Continue drafting boring logs.

**Task 4 – Preliminary Design (30% Design)**

- Continue developing design criteria.
- Develop design strategy for stream diversion and inlet/outlet pipe alternatives.
- Prepare materials for, and participate in, the meeting of the Technical Review Board scheduled for October 26 to 28, 2022.

**PROGRESS AND COST TO DATE**

The following table provides a summary of the cost and progress by task for Task Order 01 as of September 30, 2022.

ACTIVITY	Task Order 01 Estimate	Prior Billed (\$)	Current Billed (\$)	Total Billed (\$)	Remaining Budget (\$)	Percent Spent	Percent Complete
Task 1 - Project Administration	499,025	143,998	33,388	177,385	321,640	35.5%	37%
Task 3 - Geotechnical Evaluation	2,038,993	506,209	626,204	1,132,413	906,581	55.5%	58%
Task 4 - Preliminary Design (30% Design)	458,780		24,838	24,838	433,942	5.4%	6%
<b>Total Task Order 01</b>	<b>2,996,799</b>	<b>650,207</b>	<b>684,430</b>	<b>1,334,637</b>	<b>1,662,162</b>	<b>44.5%</b>	<b>45%</b>

The results of the Earned Value Analysis (EVA) for the project as of September 30, 2022 are as follows and are shown graphically on Figure 1:

Actual Cost of Work Performed (ACWP)	Budgeted Cost of Work Performed (BCWP)	Budgeted Cost of Work Scheduled (BCWS)	Cost Variance (BCWP - ACWP)	Schedule Variance (BCWP - BCWS)
\$1,334,637	\$1,502,874	\$2,026,930	\$23,197	(\$972,066)

With the field activities nearing completion, we now forecast the overall cost of the explorations may be about \$70,000 below the original budget primarily because (a) the quality of the rock encountered forced us to terminate a

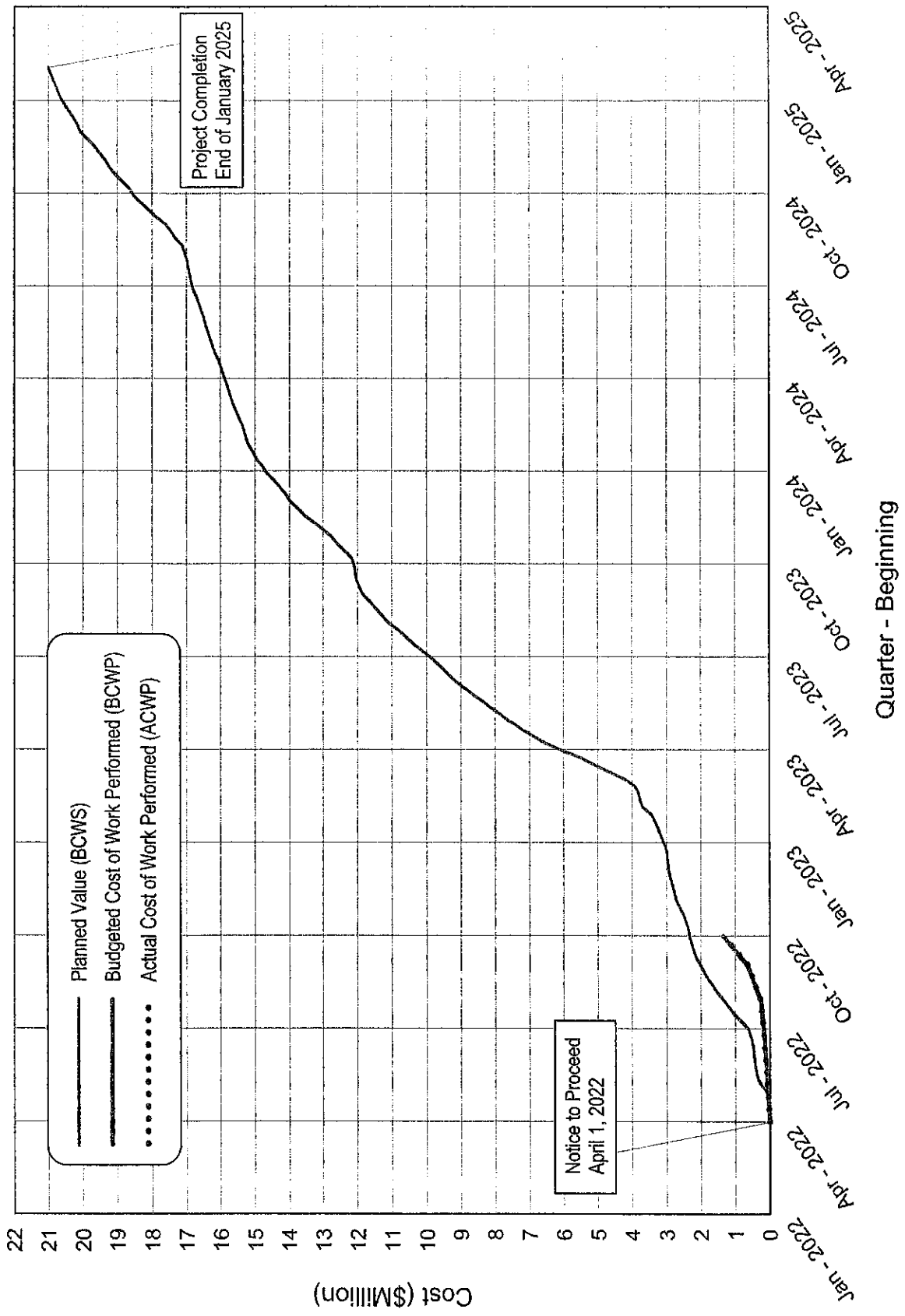
*89*

deep boring at the dam left abutment before reaching its planned depth and to forego geophysical logging and piezometer installation in that borehole, and (b) the scope of the test trenches at Saddle Dam 1 had to be significantly reduced to avoid numerous animal burrows discovered during the biological clearing survey. The current forecast shows the work planned in Task Order 01 to be completed slightly under budget.

The EVA continues to show that we are significantly behind schedule as of the end of the reporting period, although the schedule variance has decreased and will continue to do so as the explorations get completed and the studies planned in Task Order 01 get underway. This schedule variance has been discussed in previous progress reports and we continue to strive to get the project essentially back on schedule by the end of November.

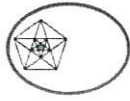
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**RESULTS OF EARNED VALUE ANALYSIS**  
**AS OF SEPTEMBER 30, 2022**  
**DEL PUERTO CANYON RESERVOIR**





**DEL PUERTO CANYON RESERVOIR  
DESIGN OF DAMS AND APPURTENANT STRUCTURES**

Progress Report No.: PR-05

Prepared by: G. Roussel

Reporting Period: October 1, 2022 through October 28, 2022

Date: 11/14/2022

## ACTIVITIES DURING REPORTING PERIOD

### Task 1 – Project Administration

- Prepared for and attended biweekly status meetings with Program Team, prepared meeting notes, and maintained action item list.
- Prepared progress report and submitted with invoice.
- Held weekly internal status meetings with TGP technical staff involved in the work to monitor progress and address issues, as necessary.
- Provided direction to TGP staff for prioritizing and re-scheduling activities and resolved logistics issues as they arose.

### Task 3 – Geotechnical Evaluation

- Continued detailed geological mapping in conjunction with explorations.
- Completed mud rotary drilling and rock coring at the structures. A total of thirteen borings were drilled: 2 at the Main Dam, 5 at Saddle Dam 1, 2 along the tunnel alignment, 2 at the Main Dam abutments, and 1 each the inlet/outlet structure, and Saddle Dam 2. A total of 5 piezometers were installed and most of the borings included downhole geophysical logging and/or packer testing.
- Backfilled test trenches at Saddle Dam 1 and installed some erosion protection.
- Completed first draft of boring logs using gINT.
- Reduced and interpreted results of packer tests; and reviewed preliminary data from the geophysical logging provided by GeoVision.
- Completed Part 1 of the laboratory testing on specimens from the sonic brings to assess the availability of fill materials.
- Started assembling results of the laboratory testing program and summarizing geotechnical conditions revealed by the subsurface explorations.

### Task 4 – Preliminary Design (30% Design)

- Advanced concept of low-level outlet as an alternative to the tunnel for stream diversion and inlet/outlet conduit and developed design strategy for presentation to the Technical Review Board (TRB).
- Prepared materials for, and attended, the meeting of the TRB on October 26 to 28, 2022.

## SIGNIFICANT ISSUES ENCOUNTERED / ADDRESSED

None during reporting period.

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**ACTIVITIES PLANNED FOR NEXT REPORTING PERIOD (thru December 2, 2022)**

**Task 1 – Project Administration**

- Prepare for and attend biweekly status meetings with Program Team, prepare meeting notes, and maintain action item list.
- Monitor weekly progress and address issues, as necessary.
- Provide logistical direction to the TGP Team as project needs and requirements evolve.
- Provide additional information to ICF to complete the permit applications for the Phase 2 geotechnical explorations scheduled for 2023, as they request it.
- Address special requests from Program Team.

**Task 3 – Geotechnical Evaluation**

- Relocate samples from Phase 1 explorations and previous explorations by Gannett Fleming to new storage facility.
- Select additional specimens from the sonic borings and proceed with Part 2 of the laboratory testing program to support the borrow area planning and utilization study.
- Continue documenting results of Phase 1 explorations and assembling information for Geotechnical Data Report.
- Continue summary and interpretation of Phase 1 field and laboratory data, including the final results of the geophysical logging.

**Task 4 – Preliminary Design (30% Design)**

- Continue developing concept of low-level outlet and assess constructability and construction sequencing issues.
- Continue work on design criteria.

**PROGRESS AND COST TO DATE**

The following table provides a summary of the cost and progress by task for Task Order 01 as of October 28, 2022.

ACTIVITY	Task Order 01 Estimate	Prior Billed (\$)	Current Billed (\$)	Total Billed (\$)	Remaining Budget (\$)	Percent Spent	Percent Complete
Task 1 - Project Administration	499,025	177,759	21,963	199,723	299,302	40.0%	49%
Task 3 - Geotechnical Evaluation	2,038,993	1,132,039	439,887	1,571,926	467,068	77.1%	78%
Task 4 - Preliminary Design (30% Design)	458,780	24,838	69,521	94,360	364,420	20.6%	16%
<b>Total Task Order 01</b>	<b>2,996,799</b>	<b>1,334,637</b>	<b>531,371</b>	<b>1,866,008</b>	<b>1,130,790</b>	<b>62.3%</b>	<b>62%</b>

The results of the Earned Value Analysis (EVA) for the project as of October 28, 2022 are as follows and are shown graphically on Figure 1:

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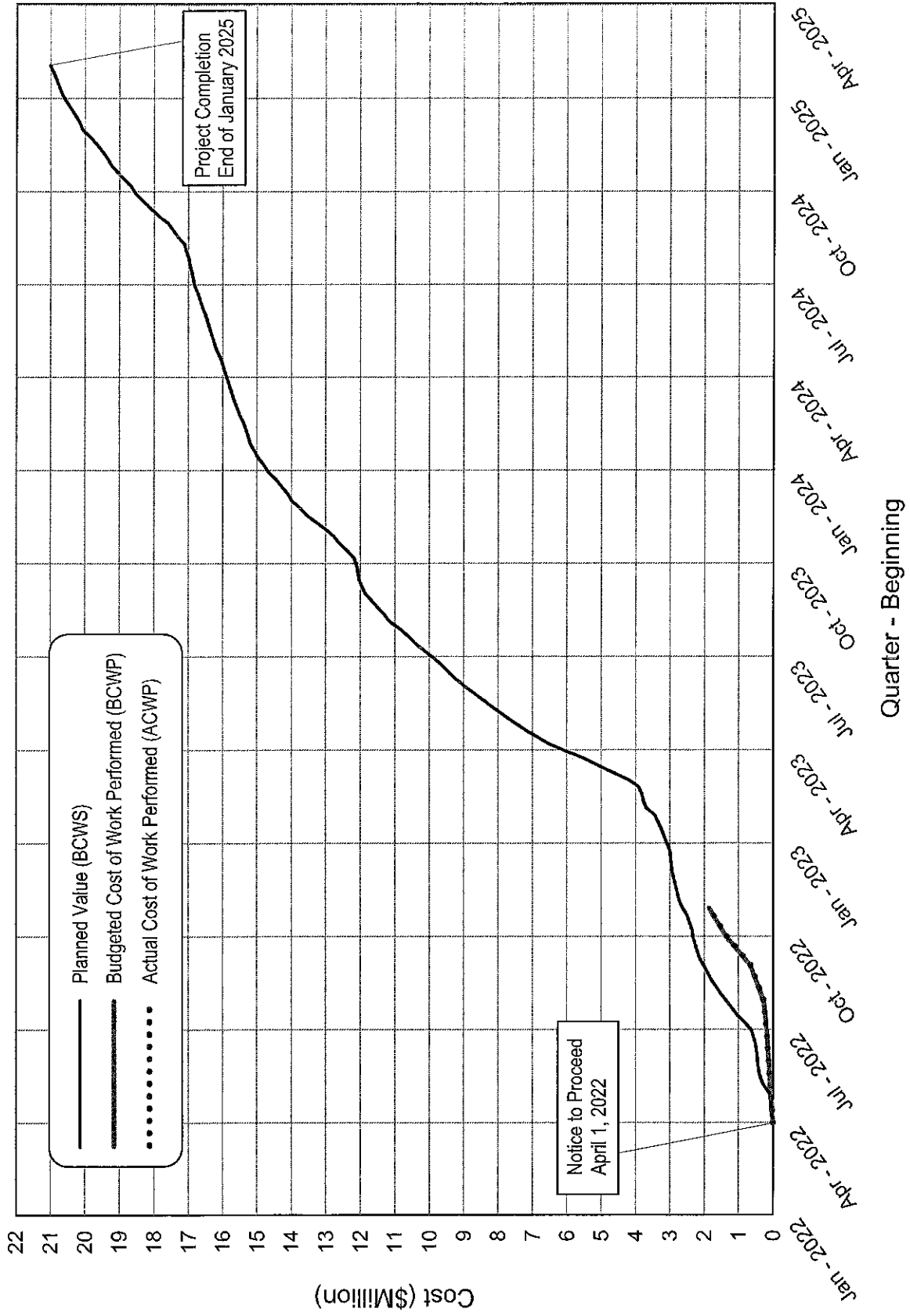
Actual Cost of Work Performed (ACWP)	Budgeted Cost of Work Performed (BCWP)	Budgeted Cost of Work Scheduled (BCWS)	Cost Variance (BCWP - ACWP)	Schedule Variance (BCWP - BCWS)
\$1,866,008	\$1,862,934	\$2,628,759	(\$3,074)	(\$765,825)

The TRB supports the concept of a low-level outlet in lieu of the tunnel based on the conceptual alternatives presented at the October meeting of the Board. Thus, the decision has been made to continue the development of the conceptual design of this conduit considering constructability and construction sequencing to be able to present the alternative to DSOD early next year and seek their preliminary approval before finalizing the details of the Phase 2 explorations. This work was initially scheduled for the spring of 2023 with funding from a new Task Order and our proceeding with it now will bring the portion of Task 4 authorized by Task Order 01 overbudget. However, the forecast underbudget situation on Task 3 as discussed in Progress Report PR-04 combined with some savings in Task 1 gives us the flexibility to proceed with this additional subtask within the funding authorized by Task Order 01. The current forecast shows the work now planned in Task Order 01 to be completed essentially on budget.

The EVA continues to show that we are behind schedule as of the end of the reporting period, although the schedule variance has decreased and will continue to do so as the studies planned in Task Order 01 get underway. This schedule variance has been discussed in previous progress reports and we continue to strive to get the project back on schedule but now anticipate Task Order 01 activities will not be completed until the end of January 2023.

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RESULTS OF EARNED VALUE ANALYSIS  
AS OF OCTOBER 28, 2022  
DEL PUERTO CANYON RESERVOIR



DEL PUERTO WATER DISTRICT (DPWD) AND  
SAN JOAQUIN RIVER EXCHANGE CONTRACTORS WATER AUTHORITY (SJRECWA)

**DEL PUERTO CANYON RESERVOIR PROJECT  
TECHNICAL REVIEW BOARD MEETING NO. 2**

November 12, 2022

Anthea Hansen, General Manager  
Del Puerto Water District  
PO Box 1596  
Patterson, CA 95363

Subject: Technical Review Board Meeting No. 2, Del Puerto Canyon Reservoir Project,  
October 26-28, 2022

Dear Anthea,

The second meeting of the Technical Review Board (TRB or Board) regarding the Del Puerto Canyon Reservoir Canyon (DPCR) Project was held October 26-28, 2022 in Patterson, California.

The meeting was attended by representatives of the project partners, Del Puerto Water District (DPWD) and San Joaquin River Exchange Contractors Water Authority (SJRECWA), the Design Team consultants (Woodard & Curran, TERRA/GeoPentech, InfraTerra), and the TRB. A list of meeting attendees is provided in Attachment A.

The meeting was comprised of presentations by the Design Team, discussions by participants, site tour, review of selected cores, and responses by the TRB to questions raised during the discussions. The meeting agenda is provided in Attachment B. The TRB was provided with the read-ahead documents listed in Attachment C prior to the meeting. In addition, the TRB was provided with copies of the meeting presentations at the meeting. The TRB found that the information presented in the read-ahead documents and meeting sessions provided a good basis for understanding the current status of the exploration and design work.

This letter report contains the Board's responses to the three questions posed by the Design Team during the meeting. This letter report was finalized after receiving notice from you and the Design Team that there were no comments regarding the draft submitted on October 31, 2022.

**Question 1:**

*Does the TRB have any comments or concerns about the preliminary assessment of the foundation conditions at the abutments? Does the TRB see additional potential design and construction challenges at the Main Dam and Saddle Dam 1 beyond those identified in the preliminary assessment presented?*

## Main Dam

Preliminary assessment of the Main Dam foundation conditions include the potential presence for any stratigraphic bedding layers that are sheared or distorted and jointed. An exploratory borehole above the left abutment had trouble with high water losses, low core recovery, and difficult drilling conditions. While this is understandable given the conglomeritic nature of this hard, stiff stratigraphic unit, these difficulties prevent the thorough characterization needed. Also, a presumed wedge-shaped block erosion feature present nearby in left abutment (Figure 1) suggests both features should be better characterized to understand their potential effects on dam performance.

For all three dams the planned excavation of foundation and foundation objectives and criteria need to be better articulated to inform Phase 2 explorations and support development of the design. For example, objectives for foundation excavation may be different under the core or shells (or between each of the three dams) and may include reaching competent and stable bedrock that is stronger than the overlying embankment materials or is groutable and treatable as appropriate. These objectives may be achieved through meeting criteria such as excavating to a specific rock quality or level of weathering (e.g., where joints are free of infilling or the infilling is non-erodible), shaping the foundation to avoid stress concentrations and differential deformations within the embankment, and reaching rock that can be treated appropriately (e.g., dental concrete, slush grouting, consolidation grouting, curtain grouting).

For the Main Dam, as well as for the Saddle Dams, explorations need to identify features that directly influence the foundation objectives and criteria. For example, explorations need to identify features that could potentially transmit water through the abutments. Vertical fractures were observed in the stiff, cliff-forming conglomerate unit exposed on the right abutment (Figure 2). Angled (inclined from vertical) exploration boreholes are a common exploration method used to explore for the presence and extent of similar features. Another example is the prior exploration borehole on the right abutment that experienced some water losses within the hard conglomerate unit. Better understanding of whether this water loss condition continues in this stratigraphic unit across the dam foundation, as the Phase 1 left abutment borehole suggests, should be a priority in the Phase 2 exploration program. Another issue that was discussed, but little data was presented, was the excavation depths in the valley bottom and associated shaping of both abutments. The foundation objectives and criteria need to be understood to guide the Phase 2 explorations for estimating expected excavation depths.

Potential design and construction challenges are primarily in the areas of characterizing the subsurface presence and continuity of rock discontinuities and the extent of high water take zones.

The challenges with the borrow sources are discussed in Question 2 below. The challenges with stream diversion and the inlet/outlet conduit are discussed in Question 3.

## Saddle Dam No. 1

Preliminary assessment of foundation conditions at Saddle Dam 1 indicate that these materials will provide consistent and predictable excavation characteristics, adequate strengths, and low groundwater transmissivities desired for a dam foundation. The Phase 1 efforts consisted of several trenches excavated in the abutments and valley bottom and borehole data.

Potential design and construction challenges are thought to be minimal for this dam foundation and well addressed by the draft plan for Phase 2 explorations which include investigation of potential shear zones in the foundation.

### Saddle Dam No. 2

Preliminary assessment of foundation conditions for Saddle Dam 2, the smallest of all dams for this project, originate from prior studies and the Phase 1 boring. If the existing geophysics used in prior studies is adequate to predict depth to rock, then additional geophysics may not be necessary. Phase 2 efforts should include obtaining additional borehole data to confirm bedrock depth, evaluate subsurface materials and groundwater conditions, and establish foundation objectives.

Potential design and construction challenges are thought to be minimal for this dam foundation and can be appropriately addressed during Phase 2 explorations.

### Question 2:

*Does the TRB have comments or concerns about the preliminary assessment of the availability of fill materials and the approach outlined to complete the borrow area utilization study?*

Phase 1 field work has just been completed and evaluation of the data is in progress. Phase 1 has provided a lot of information but Phase 2 should complete the balance of the required information.

In addition to the material information, you must now consider the following in evaluating the suitability of the borrow options; construction sequence, construction schedule, constructability of the design, specifications for each embankment material, the effects of weather during construction on each product, and quantities of each zone.

You now need to answer some key questions.

- Water sources for construction—water sources for soil conditioning, dust control, foundation preparation, and other activities need to be identified and quantified.
- Groundwater control—presence of groundwater and means for control within borrow sources and dam foundation excavations need to be identified and developed.
- Core materials—which sources will be used and the quantity in each source? Are the sources acceptable for embankment direct from excavation? Will material need to be stockpiled, processed and/or blended?
- Filter materials—are there quality materials that can be processed from raw material on site? Sands, gravel conglomerates, sandstone? Is there enough quantity of any of these materials? Will filters need to be imported from offsite and have commercial sources been confirmed?
- Shell zone—which sources will be acceptable for the shell zone? Can dam foundation excavation be stockpiled and used for the shell zones?
- Rip rap—Is the Panoche acceptable? Is there enough quantity within the pool area? What outside sources could be used? You need to consider the cost of these sources.
- Rip rap alternatives—Instead of rip rap would a soil cement surface protection be acceptable? Need to see where this has been used in California and elsewhere in the US.

- Core specifications—Achieving 95% relative compaction based on ASTM 1557 may be difficult to achieve in the field. Has a test fill been considered for establishing compaction specifications? You should research other dams with similar materials and compare actual densities achieved.

**Question 3:**

*Does the TRB agree with the conceptual alternatives presented for the stream diversion and inlet/outlet conduit and the strategy outlined to secure regulatory approval? What is the TRB's opinion of the probability of regulatory acceptance?*

As outlined in TRB Report No. 1, the TRB supports the conceptual alternative regarding the inlet/outlet conduit placed within the foundation. The TRB anticipates that regulatory approval of a conduit in the dam foundation is not a significant concern provided that several factors, discussed below, are considered during its design.

DSOD supports the use of outlets within the foundation of the dam as outlined in Division of Safety of Dams Inspection and Reevaluation Protocols, Section VII C. Outlet Conduits, dated September 28, 2018. Most dams recently constructed in California include an outlet within the foundation of the dam rather than an outlet constructed in a tunnel. DSOD has approved and supports this design as outlined in the reference noted above. An outlet through the foundation can be designed to the same level of safety as an outlet tunnel if certain modern standards are followed. The TRB suggests the following technical points be considered specific to this project when designing an outlet within the foundation:

- The outlet must be encased in reinforced concrete.
- The encased outlet should be placed in a trench within the bedrock and avoid projecting above the adjoining bedrock surface (a projecting condition).
- Seepage collars around the concrete encasement should not be included as part of the design.
- The pipe design should consider future corrosion when selecting the liner thickness and corrosion protection should be included in the design.
- Pipes and concrete encasement must be evaluated for external and internal loads. The concrete encasement must be designed to carry external earth pressures independent of the pipe, and the pipe must be designed to carry external water pressures independent of the concrete encasement.
- Thrust blocks should be included where needed.
- If the foundation objectives result in excavation being deeper beneath the core than under the shells (i.e., a core trench), special consideration of the outlet through the core trench needs to be evaluated. The encasement within the core trench would need battered walls and the design would need to evaluate the effect of the projecting condition for this condition.
- Differing foundation conditions along the conduit causing differential movement should be avoided. If differential movement is expected due to differing foundation conditions, articulated joints may be necessary.

Selecting between placing a conduit within the dam foundation versus a conduit within a tunnel should consider the construction sequence, cost, and diversion scheme.

The construction sequencing should be evaluated as part of the selection of the alternative. For the alternative of a conduit in the dam foundation, it is strongly recommended that the entire foundation be prepared to the acceptable foundation objective prior to placement of the conduit. The foundation

preparation, grouting and placement of the conduit should all be considered collectively when developing the construction sequence.

The outlet also needs to be designed to meet the required capacity which should include considerations for emergency drawdown requirements, winter diversion and operational needs. This project includes a relatively small drainage area. It may be possible to have initial construction, including embankment foundation preparation, grouting and outlet construction, occur during spring to fall of the first season, which could avoid the need for diversion during the first winter. There may be no need for a coffer dam due to the limited drainage area if the dam could be constructed to a safe level and the outlet is operable during the second season. Therefore, diversion of water during construction may not be necessary and therefore a coffer dam may not be needed with this scenario. The requirements for diversion should be thoroughly evaluated. The TRB understands that a stream gauge with 60 years of record is available to evaluate the hydrologic conditions. This information could be used to evaluate the standard 100-year level of protection required for winterization. This information could be used to determine any necessary winter diversion requirements, required dam height prior to winter storms, and define the construction season.

The outlet alternative, diversion scheme and winterization plans should be developed then shared with DSOD for comment preferably at the 30 percent level of design.

### Additional comments

#### Constructability considerations for design

The TRB recommends that the Design Team engage the constructability expertise within their team at this time to advance the design to the 30% level. The importance of considering constructability in design was discussed above in our responses to questions 1, 2, and 3.

#### Phase 2 explorations

Plans for the Phase 2 explorations were discussed, including key questions to be addressed (and methodology to address them). The TRB recommends that specific exploration objectives be articulated and used to guide the design of the Phase 2 exploration program. Examples of issues that need to be addressed for the Main Dam include:

- Hydraulic conductivity of the near vertical, east-west striking joint set (utilizing inclined boreholes with packer testing, tied to surface mapping of these features).
- Permeable zones that appear to be located above and below the resistant bed or ridge responsible for high takes and drill fluid loss in AB-3 (consider use of sonic borings to get better recovery and pairing of sonic drilling with mud rotary when recovery is an issue). Also, it would be important to know if these features are continuous across the entire dam foundation and not just the left abutment.
- Extent and character of the possible discontinuity near normal to bedding that formed the erosional wedge downstream of the left abutment, and the possible occurrence of the east-west joint set within the resistive ridge of this abutment (possibly by backhoe excavation along the base of the erosional feature along the western face to expose the fanglomerate).

- Foundation and abutment permeability characteristics for designing foundation grouting (consider systematic water pressure testing over full borehole lengths below the depth of expected excavations across the Main Dam and Saddle Dam 1 foundations).

In addition, consider early implementation of the surface geophysical program to better define top of rock at the upstream flanks of the Main Dam (near the base but outside of the stream bed) and at Saddle Dams 1 and 2. Furthermore, as part of the Phase 2 plan, the TRB recommends an additional drillhole at Saddle Dam 2 to confirm the top of rock and weathering profile.

We look forward to reviewing the draft Phase 2 exploration plan and draft Phase 1 Geotechnical Data Report (GDR) prior to our teleconference meeting on February 27, 2023.

#### Responses to Previous TRB Comments

The TRB recommends that subsequent meetings begin with the Design Team summarizing previous TRB recommendations and suggestions along with the Design Team's responses. The TRB can then indicate concurrence with the actions or provide additional comments. It is our understanding that the Design Team will develop a system for tracking TRB comments, actions, and their status for subsequent meetings.

#### Closure:

The TRB commends the Design Team for timely completion of the Phase 1 explorations despite project challenges, the continued clarity of their presentations, and the collaborative discussions during the meeting.

The next meeting of the TRB will be held remotely by video conference over two days, Monday, February 27<sup>th</sup> and Wednesday, March 1, 2022. The video conference calls are from 1:00-5:00 PM (Pacific) on both days. The purpose of this meeting will be to review the Phase 2 exploration plans.

The next in-person meeting of the TRB is scheduled for Monday to Wednesday, April 17-19, 2022 in Patterson. The TRB closed-door session on April 19<sup>th</sup> will be from 8:30 AM to 12:00 noon at a venue away from the DPWD offices because of the coincident DPWD Board Meeting. The TRB will return to the DPWD offices for the report-out that afternoon. The purpose of this meeting will be to review progress toward 30% design.

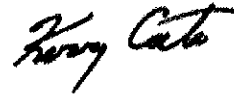
The TRB appreciates your exceptional hospitality during the meeting and the opportunity to be of assistance to DPWD and SJRECWA in this assignment.



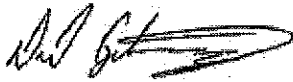
Respectfully submitted,



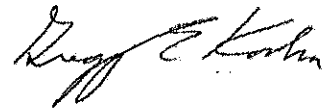
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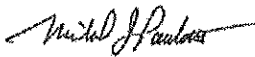
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Attachment A: Agenda for TRB Meeting  
Attachment B: List of Participants  
Attachment C: List of Read Ahead Documents



Figure 1: Main Dam left abutment (looking north) resistant fanglomerate ridge and wedge shaped erosional feature (TERRA/GeoPentech presentation 2022)

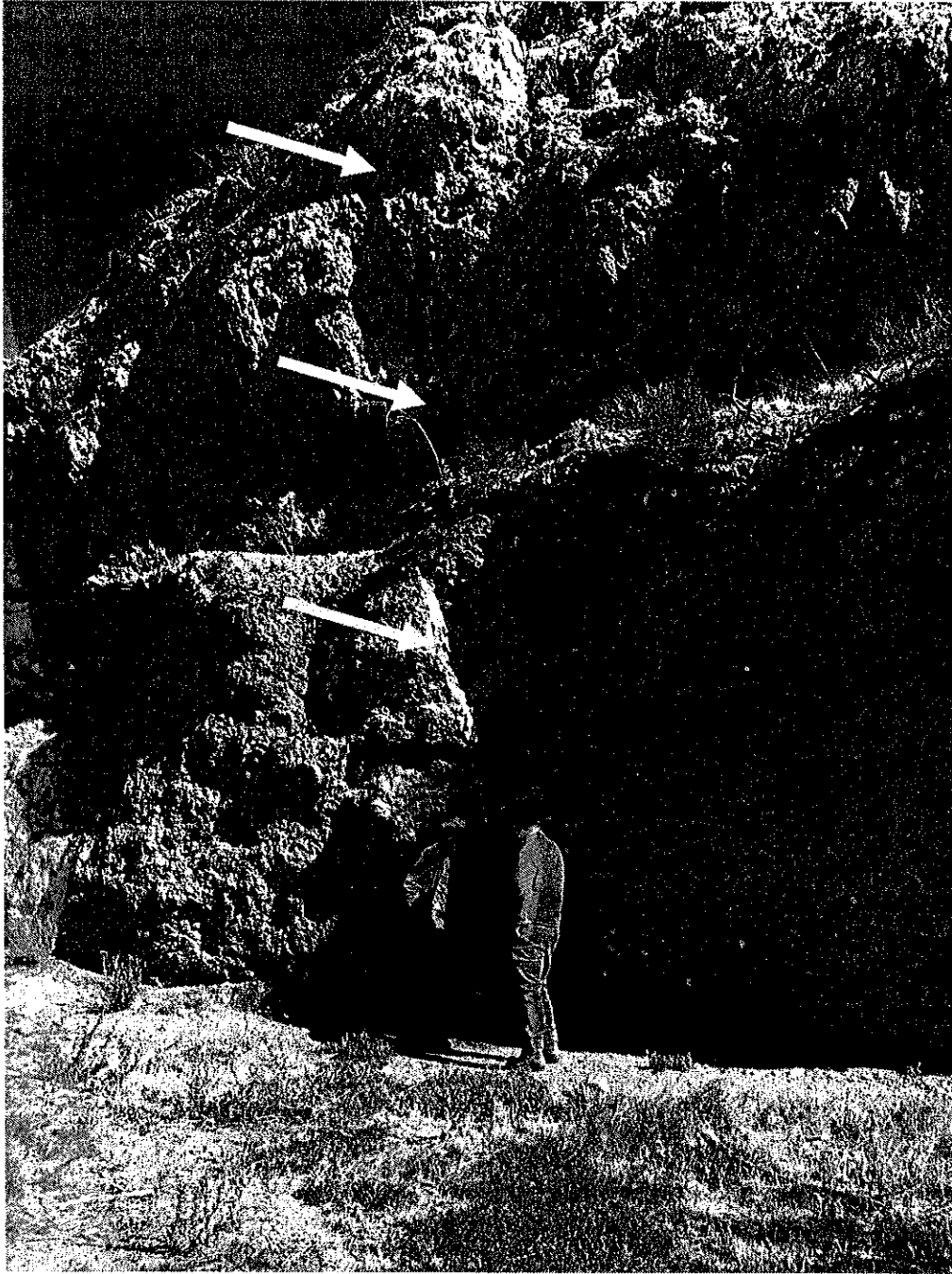


Figure 2: Vertical joints in the resistant outcrop of fanglomerate on right abutment of Main Dam.

**Attachment A:  
List of Participants**

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
Anthea Hansen	<i>DPWD</i>	Guilaine Roussel	<i>TERRA/GeoPentech</i>
Chris White	<i>SJRECWA</i>	Robert Kirby	<i>TERRA/GeoPentech</i>
		Andrew Dinsiek	<i>TERRA/GeoPentech</i>
Xavier Irias	<i>Woodard &amp; Curran</i>	Bob McManus	<i>TERRA Engineers</i>
Andy Neal	<i>Woodard &amp; Curran</i>	Chris Hitchcock	<i>InfraTerra</i>
Ross Boulanger	<i>TRB</i>		
Kerry Cato	<i>TRB</i>		
David Gutierrez	<i>TRB</i>		
Gregg Korbin	<i>TRB</i>		
Mike Pauletto	<i>TRB</i>		

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**Attachment B:  
Agenda for TRB Meeting**

**TECHNICAL REVIEW BOARD  
Meeting No. 2  
October 26 to 28, 2022  
Patterson, CA**

**AGENDA**

**October 26, 2022**

- 8:30 AM Meet at the Office of Del Puerto Water District - 17840 Ward Ave, Patterson, CA 95363
- 9:00 AM Introductory Remarks by Project Partners and Program Team
- 9:10 AM Agenda and Objectives
- Project Status
  - Questions for TRB
- 9:30 AM Overview of Phase 1 Field Explorations
- 10:30 AM Preliminary Assessment of Foundation Geology/Conditions
- Main Dam
  - Saddle Dam 1
  - Saddle Dam 2
- 12:00 PM Lunch
- 1:00 PM Results of Field Measurements
- Piezometer Data
  - Packer Tests
  - Geophysical Surveys
- 2:30 PM Preliminary Assessment of Available Fill Materials
- Geology of Borrow Areas
  - Material Characteristics
- 4:00 PM Discussion and Planning of Site Tour
- 6:30 PM Group Dinner – TBD

**October 27, 2022**

- 8:30 AM Meet at Starbucks - 2952 Speno Dr, Patterson, CA 95363 (across street from Best Western Hotel)
- 9:00 AM Site Tour
- Geologic Features of Special Interest
  - Inspection of Samples Collected during Phase 1 Explorations
- 12:00 PM Return to the Office of Del Puerto Water District for Lunch



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- 1:30 PM Stream Diversion and Inlet/Outlet Pipe Alternatives
- 2:30 PM Outline and Discussion of Design Criteria
- 2:45 PM Six-Month Look Ahead
- 3:00 PM TRB Closed-Door Session
- 5:00 PM Close for the Day

**October 28, 2022**

- 8:30 AM TRB Closed-Door Session
- 11:00 AM Presentation of TRB Findings and Comments
- 11:45 AM Closing Statements and Schedule for Next TRB Meeting

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**Attachment C:**  
**List of Read Ahead Documents**

The read ahead documents comprised following PDFs or sets of PDFs from the phase 1 explorations:

- Phase 1\_Exploration\_Location\_Plan.pdf
- DPCR - Prelim Lab Results 2022\_10\_21.pdf
- Sonic coring logs (pdfs for BA-1 through BA-8, 12 & 13; LS-1A, 1B, 5)
- Rotary boring logs (pdfs for AB-1, AB-2, AB-3; IN-3; MD-18; SD1- 6, SD1-8, SD1-9, SD1-10 & SD1-18; and SD2-1)





# MONTHLY REPORT

## FUNDING

On October 17, the Biden-Harris Administration announced \$210 million from the Bipartisan Infrastructure Law (BIL) for Western drought resilience projects. Of the \$210 million, \$137 million was allocated to California storage projects and \$82 million was allocated to the Phase 2 Los Vaqueros Reservoir Expansion Project. Total federal funding appropriated following Congressional authorization includes \$10 million for pre-construction and \$136 million for construction. Additional announcements regarding funding from the WIIN Act are anticipated in the coming weeks. The first invoice, with a federal cost share of approximately \$2 million, was recently approved by Reclamation.

On October 19, the EPA invited the project to apply for a loan of up to 49 percent of the total project cost (currently estimated at \$675 million). The EPA will be reaching out to schedule an initial meeting to discuss the WIFIA underwriting process. The EPA has administratively reserved the funding for the Project and will hold the funding provided that a full application is received by December 31, 2023.

The Project qualified for funding under the Water Storage Investment Program and received an adjusted Maximum Conditional Eligibility Determination of \$477,558,343 from the California Water Commission (CWC) on March 16, 2022. An amendment to the Early Funding Agreement with the CWC to reflect the increased award and align with the current project schedule is routing for signature. Invoices are continuing to be submitted to the California Water Commission (CWC) monthly.

Amendment No. 4 to the Multi-party Cost Share Agreement is under review by staff at partner agencies. The local cost share proposed for each agency is \$1,094,000. Amendment No. 4 needs to be executed by the end of the year.

The following chart provides an overview of the Multi-party Agreement (MPA) expenditures through August 31, 2022. The funds received, outstanding receivable, and cash on hand are shown through August 31, 2022.

OCTOBER 20, 2022

### UPCOMING ACTIVITIES

October 24 at 4:00 – JPA Member staff meeting regarding Amendment No .4 to Multi-party Agreement

October 26 at 10:00 – JPA Communications & Outreach Committee Meeting

October 27 at 1:00 – JPA Finance Committee Meeting

November 9 at 9:30 – JPA Regular Board Meeting

November 30 at 3:30 – GM meeting at ACWA Conference

### UPCOMING LAP BOARD COORDINATION

TBD – Valley Water Storage Committee

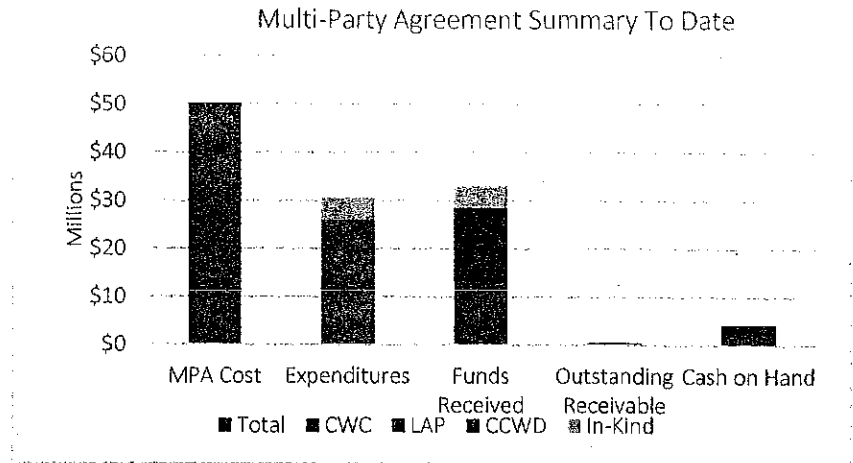
### ADDITIONAL PROJECT INFO

<https://www.ccwater.com/lvstudies>

<https://www.usbr.gov/mp/vaqueros/>

<https://cwc.ca.gov/Water-Storage/WSIP-Project-Review-Portal/All-Projects/Los-Vaqueros-Reservoir-Expansion-Project>

[www.losvaquerosipa.com](http://www.losvaquerosipa.com)



**JPA BOARD OF DIRECTORS MEETINGS**

On October 12 the Los Vaqueros Reservoir Joint Powers Authority (JPA) Board of Directors met in-person in Los Banos followed by a tour of the wildlife refuges. The next JPA Board Meeting has been scheduled for November 9 and the meeting agenda packet will be distributed to JPA Directors and Alternate Directors on Thursday, November 3 and posted to the JPA website on Friday, November 4. JPA Board and Committee meetings are currently planned to continue on the Zoom platform through February 2023 in compliance with Governor Newsom’s plans to rescind to the state of emergency at that time.

**PERMITTING**

U.S. Fish and Wildlife Service (USFWS) continues work on the Biological Opinion for terrestrial species. USFWS Migratory Bird Program staff continue drafting an Environmental Assessment for their eagle take permit action. California Department of Fish and Wildlife (CDFW) continues work on the Incidental Take Permit for terrestrial species and Lake and Streambed Alteration Agreement. The third draft of the Incidental Take Permit for aquatic species has been reviewed by CDFW. Central Valley Regional Water Quality Control Board (CVRWQCB) issued its Section 401 permit on June 30, 2022. The U.S. Army Corps of Engineers (USACE) continues work on its Section 404 permit which will be issued after Reclamation issues its Record of Decision. Draft water rights change petitions have been prepared and submitted to staff at the State Water Resources Control Board for preliminary review.

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## **DESIGN**

A consulting contract was executed with GEI to provide Capital Project Management (CPM) services to support CCWD in providing cost and schedule controls, risk reviews, technical reviews and cost and progress reporting, among other project management activities.

A video inspection of the Transfer Pipeline was completed, which is the inlet/outlet pipeline to the Los Vaqueros Dam. The inspection results are being reviewed and a report will be prepared that summarizes the pipeline condition. Inspections are intended to confirm the pipeline conditions meet the pressure requirements of the increased water level of the expanded reservoir.

In response to comments from CDFW to further reduce or avoid impacts to lands encumbered with conservation easements, additional potential alignments of the Transfer-Bethany Pipeline are under development. The 90-percent design of the Turn-In to the California Aqueduct at Bethany Reservoir has been initiated.

The 60-percent design of the Pumping Plant No. 1 Replacement has been submitted and is being reviewed by CCWD and Reclamation. A physical model of the pump station has been constructed and testing of the hydraulics to confirm performance consistent with industry standards is under way. The testing plan has been peer reviewed.

Plans, specifications, and technical memoranda for the dam expansion have been submitted for review and approval by the California Division of Safety of Dams (DSOD). With these submissions, CCWD will request approval to construct from DSOD.

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# Fortifying B.F. Sisk Dam and San Luis Reservoir against the power of an earthquake

*Comprehensive plan aims to safeguard key components of the Central Valley Project and State Water Project*

Media Contact: Gary Pitzer (916) 978-5112 gpitzer@usbr.gov  
For Release: Nov 8, 2022  
B.F. Sisk Dam and San Luis Reservoir

Earthquakes are a fact of life in California, and at the B.F. Sisk Dam and San Luis Reservoir work is underway to ensure the continued viability and durability of the key resources, even when Mother Nature decides to shake things up.

A major seismic upgrade, the largest project of that scale that has occurred at the site since its construction in 1967, received a \$100 million investment earlier this year from the Bipartisan Infrastructure Law. It is Reclamation's largest dam safety project under the 1978 Safety of Dams Act.

Situated amid the rolling slopes of the Diablo Range in Merced County, Sisk Dam and San Luis Reservoir are an important link in the storage and conveyance chain of the Central Valley Project and State Water Project. With a storage capacity of more than 2 million acre-feet, the reservoir is the largest off-stream storage facility in the United States, providing water for farms, wildlife refuges, and millions of Californians.



San Luis Reservoir is the largest off-stream storage facility in the United States.

An analysis of the risk and potential consequences of a large earthquake prompted Reclamation and the California Department of Water Resources to launch the project that

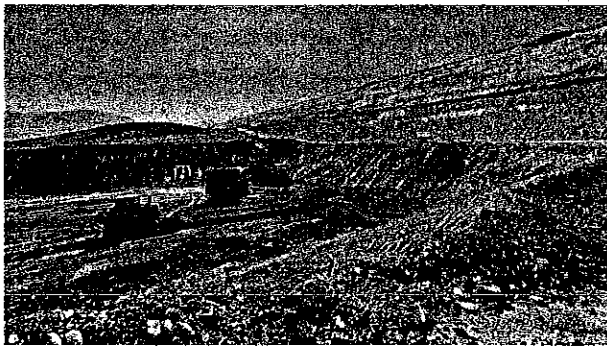
will add stability berms and other physical features to the existing 3.5-mile earthen embankment. The project is expected to take several years to complete.

A recent visit to the dam and reservoir revealed a beehive of activity, with heavy machinery moving about as the work of stabilizing and upgrading the dam takes place.

The urgency and need of the project were demonstrated October 25 when an earthquake rumbled through a part of the Bay Area about 60 miles west of the dam (a detailed inspection of the facilities after the earthquake and found no areas of concern).

Crews are shoring up large portions at the bottom of the dam to bolster its ability to withstand a large seismic event. This is done by removing weak foundation materials known as "slope wash" to make the base of the dam stronger.

"Some of the foundation materials can become very weak when subjected to ground motions," said Sean Frische, a civil engineer at Reclamation's project field office. "We are taking those out at the downstream toe and replacing them with rock fill that is a lot heavier and will give it a more stable foundation."



Heavy machinery excavates slope wash from the base of B.F. Sisk Dam

The first phase of the project involves excavating and filling three slope wash sections and some spillway work. The scale of the work is impressive, with crews digging out more than 400,000 cubic yards of slope wash from three sites. The current slope wash work is expected to be completed by mid-2024 with additional work continuing through 2025. Frische said the slope wash sections with the highest risk are the ones targeted to be completed first.

The project includes a dam raise of 10 feet for safety, the idea being that even with a full reservoir, the dam will not overtop in a seismic event. "We want to make sure that in a shaking event, if the material were to subside, we have enough freeboard, the difference between the top of the water to the top of the dam, that if it does fall, it still maintains a higher elevation." Frische said.

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