SOLURI MESERVE
a law corporation

tel: 916.455.7300 · fax: 916.244.7300
510 8th Street · Sacramento, CA 95814

September 17, 2018

Note: LAND-309 was revised by hearing team staff in accordance with the Hearing Officers' Ruling Letter on 10/12/2018.

SENT VIA EMAIL (WaterFixComments@icf.com)

WaterFix Comments 2018
P.O. Box 1919
Sacramento, CA 95812

RE: Draft Supplemental EIR/EIS Comments

Dear Sir or Madame,

These comments on the California WaterFix Draft Supplemental EIR/EIS ("DSEIR/S") are submitted on behalf of Local Agencies of the North Delta ("LAND").[1]

I. The DSEIR/S Does Not Fully Disclose Project Impacts in Compliance with CEQA

The Department of Water Resources' ("DWR") entire approach to developing the DSEIR/S is legally flawed for repeatedly failing to disclose and analyze the Project change in impacts. Under the California Environmental Quality Act ("CEQA"), when an EIR has been certified but substantial changes are proposed, the lead agency must prepare a subsequent EIR to address any new significant impacts or increases in the severity of previously identified impacts. (14 Code Cal Regs ("CEQA Guidelines"), § 15162, subd. (a)(1).) In addition, when there are substantial changes to the circumstances under which the project will be undertaken, a subsequent EIR must be prepared. Similarly, when new, important, information that shows the significant effects previously examined will be more severe than previously shown, a subsequent EIR is required. (CEQA Guidelines § 15162, subd. (a)(3)(c).) The DSEIR/S contains substantial changes to the Project that require in-depth review, yet the analysis in the DSEIR/S is truncated and vast areas of impacts are wholly ignored.

The DSEIR/S approach to analysis contains two related, yet equally damaging, defects that result in its failure as an informational document. The first, with respect to the impacts actually included in the DSEIR/S, there is inadequate analysis. By focusing on the "incremental differences between the expected impacts of the proposed project and those of the approved project" on an impact severity level, DWR overlooked potentially significant impacts. (DSEIR, p. 4-4.) While certain impacts may have the same level of

[1] The Bureau of Reclamation has not yet circulated the document pursuant to NEPA. When that occurs, LAND intends to submit comments to Reclamation.

severity under the proposed and approved Project versions, this does not mean the impacts are identical. For instance, the permanent conversion of agricultural land on Bouldin Island is not the same as a permanent conversion of agricultural land on Byron Tract, even if the total acreage of converted agricultural land is equal. DWR must analyze the proposed Project's new impacts, regardless of how they compare in severity to the approved Project's impacts.

The second major flaw is the information entirely missing from the DSEIR/S. While the DSEIR/S purports to cover "changes in locations and sizes of reusable tunnel material (RTM) storage areas, on conveyance facility changes near Clifton Court Forebay, and on other facility changes," many impact areas are not analyzed at all. The public is forced to accept DWR's conclusion that the Project does not implicate these impact areas at all. A project the magnitude of the Delta Tunnels does not create impacts in isolation. Impacts on water supply and groundwater resources would in turn affect agriculture. Increases in local traffic would impact the Delta economy and delay emergency response times. All of these potential impacts are ignored in the DSEIR/S due to DWR's narrow-minded approach to analysis. Rather than provide "a clear discussion not the possible environmental impacts related to facility design of the proposed project" DWR's approach prevents the public from fully grasping the extent of the changes made to the Project. (DSEIR/S, p. 4-4.)

An EIR must analyze every issue for which the record provides a "fair argument" of significant impact. (*Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1109 (*Protect the Historic Amador Waterways*).) Failing to address entire impact areas, despite evidence suggesting potential impacts due to the Project changes or other changes in circumstances, violates CEQA.

II. The Project Description and Analysis is Unstable and Truncated

The Project description is unstable. For instance, the capacity of the tunnels remains unclear. While the DSEIR/S states that the Project capacity remains the same (DSEIR/S, p. 3-3 [listing 9,000 cfs capacity]), other information indicates that the tunnels could convey more than 9,000 cfs. For instance, during the time period under which a single or phased tunnel project was being considered, engineers for the Metropolitan Water District explained that "In order to accommodate a higher flow rate in the tunnels, the original 2015 concept design of the pumping facilities, the facilities included in the Final EIR/EIS was modified. Examples included utilizing larger pumps and deepening the pump well structure to accommodate the larger pumping equipment." (See MWD Email, February 2, 2018, attached as Exhibit 1.) If a 4,500 cfs tunnel can be modified to carry up to 6,000 cfs of water, that means the currently proposed Project could carry up to

12,000 cfs, 3,000 cfs more than described in the DSEIR/S. The DSEIR/S fails to discuss this reasonably foreseeable use of the tunnels and fails as an informational document.

Changes have taken place since certification of the FEIR/S that should be, but are not, analyzed in the DSEIR/S. For instance, the Tricolored Blackbird was listed as Threatened by the Fish and Game Commission on April 19, 2008. No additional analysis is provided in the DSEIR/S of the effects on this listed bird. (DSEIR/S, pp. 12-41 to 12-42.) Moreover, revisions to the Project lead to reductions in cultivated foraging habitat available to Tricolored Blackbirds on Bouldin Island and elsewhere should have been analyzed but were not. The need for additional take authorization from the Department of Fish and Wildlife is also not disclosed or analyzed.

In addition, the abandonment of the prior plan to modify the existing Clifton Court Forebay could also lead to increases in take of fish species. The previously proposed modifications to Clifton Court Forebay would have reduce fish predation and take. Now, with the new Byron Tract Forebay option, those changes to Clifton Court Forebay would not occur. Aquatic resource effects, along with the appropriate permitting from the state and federal fish agencies should have been disclosed and analyzed in the DSEIR/S.

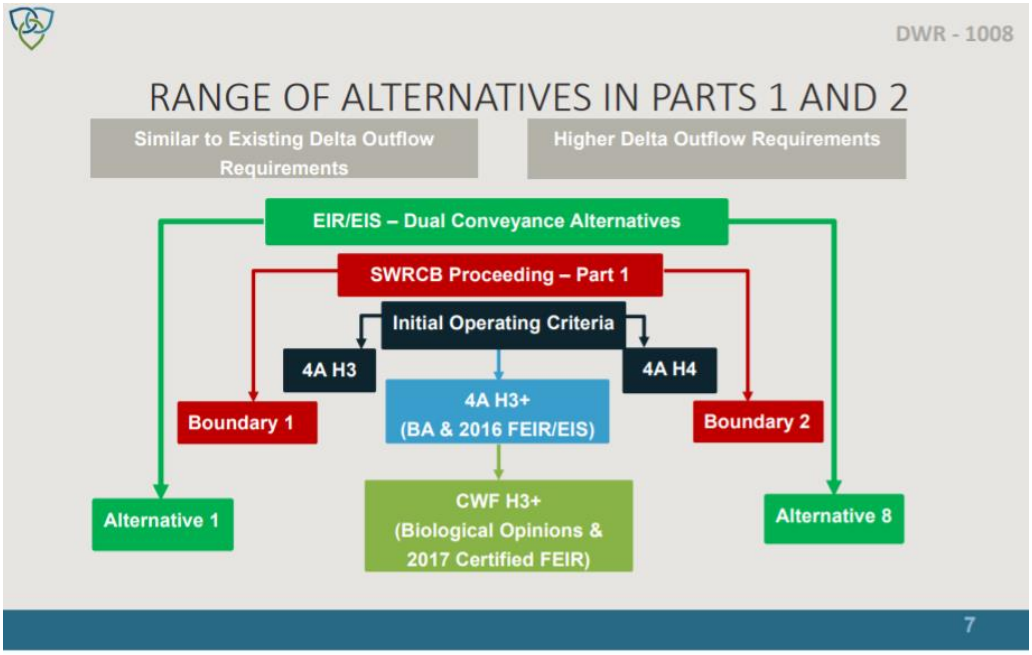
Another important change to the Project is that MWD has pledged to financially support the unfunded capacity of the Project. DSEIR/S claims that this change "does not change the model assumptions for California WaterFix" are unsupported. (DSEIR/S, p. App. 3A, p. 7.) One difference is the timing of water supply demand for MWD as an urban M&I use as compared to other SWP or CVP agricultural water contractors that MWD would replace. The altered water supply demand timing alters the fundamental assumptions driving the CALSIM monthly operations modeling and in turn affects all of the models (e.g. DSM2) that are dependent upon CALSIM.

In addition, the pending renegotiation of the Coordinated Operating Agreement ("COA"), initiated by Reclamation on August 17, 2018, will likely result in a net reduction of available SWP water for potential water supply delivery and affect prior assumptions of how the SWP is operated. With these changes in the COA, the CALSIM modeling assumptions must be revised and CALSIM rerun to support the currently proposed Project. All of the resource impact analyses that utilize CALSIM or the ancillary dependent models must be redone with the updated water supply demand timing assumptions and updated allocation of water quality responsibilities between the CVP and SWP.

Another change that reduces protections for Delta water quality is the change to move the Inflow to Export ("I/E") ratio downstream of the proposed North Delta Diversions. The Project now proposes to define the export/inflow ratio in D-1641 as

(total exports) divided by (total Delta inflow), where all the exports currently come from the South Delta. This redefined E/I ratio does not apply to or limit exports through the proposed tunnels (isolated facility) in the North Delta, which means the E/I ratio's original biological purpose, to protect against entrainment of fish, eggs and larvae, is not achieved. In addition, the I/E ratio currently applicable to the SWP and CVP helps protect interior Delta water quality. If this critical Delta protection is not to be retained, the effects of taking away that protection must be analyzed. (See Exhibit 3, Testimony of Richard Denton for additional detail.)

In addition, the Project seeks to operate according to a wide range of operations.



Only initial operating criteria are defined, and the Project proposes to operating according to a wide range, all the way from Boundary 1 to Boundary 2. All operational criteria are also subject to change under adaptive management. The SDEIR/S fails to address the water quality and other impacts associated with the full range of proposed operations. In particular, Delta water users are concerned about late summer and fall months when diversions are not constrained by listed fish and inflows to the Delta may be lower. Without any I/E restrictions, conditions in the Delta may worsen to the point that beneficial uses of water are harmed. These water quality and water supply effects should have been analyzed but were not. (See Exhibit 3)

The Project proponents have also determined to rely on a different initial operating scenario than was disclosed in the FEIR/S. Rather than BA H3+, the Project now proposes to begin operating with CWF H3+, which is different from BA H3+ in

significant respects. Some of these changes include new and more severe water quality effects, which must be analyzed and then mitigated to the extent feasible. (See Exhibit 3.)

These and other changes necessitate preparation of a subsequent EIR and consideration feasible mitigation to address the reasonably foreseeable effects of the Project as currently proposed.

III. The DSEIR/S Fails to Analyze Impacts to Groundwater Resources

A primary example of the flaws in the DSEIR/S is the analysis of groundwater impacts. The DSEIR/S claims that the proposed project refinements to the footprint of the conveyance facilities will result in the tunnels to "avoid crossing under the community and to avoid affecting municipal water wells." (DSEIR/S, p. 3-7.) Yet the DSEIR/S fails to provide any information supporting this determination, or to address whether the newly proposed tunnel alignment and Project changes would result in impacts to different water and groundwater resources. Neither does the DSEIR/S include analysis of the hydrogeological effects of the tunnels on wells in the area surround the newly aligned tunnels and facilities. The failure to provide this information and analysis renders the DSEIR/S inadequate as an informational document.

Similarly, the DSEIR/S does not identify existing wells in the proximity of the new tunnel alignment, or any analysis of impacts to well owners. Instead, the DSEIR/S broadly concludes that the new alignment will either have beneficial effects (DSEIR/S, p. 3-7) or no effects (DSEIR/S, p. 7-1) on groundwater resources. This approach is unacceptable, because no investigation has been done with respect to wells and other water resources impacted by the new alignment. The Project footprint has significantly changed, yet DWR has failed to consider the impacts of those changes.

The DSEIR/S also fails to disclose or analyze how the changes in tunnel muck placement would impact groundwater wells. Further, there is no information regarding the location of borrow pits, which will be necessary at each intake site, per the Incidental Take Permit ("ITP"). (See Exhibit 2 [Excerpt of ITP].) The DSEIR/S does not disclose where the material will come from or provide maps of their potential locations. Both project features could adversely impact groundwater well use, yet the DSEIR/S does not even address, let alone analyze, them.

DWR has also failed to include any mitigation measures to address the significant groundwater impacts of the Project. Specifically, the duration of groundwater monitoring under Mitigation Measures GW-1 and GW-2 is far too short to determine whether changes to groundwater are occurring as a result of the Project. It would be feasible to

expand monitoring and to commit to addressing any reductions in groundwater recharge to the adjacent subbasins yet DWR has failed to include that mitigation in the DSEIR/S.

IV. The DSEIR/S Fails to Analyze Agricultural Resource Impacts

The DSEIR/S fails to adequately analyze the Project's impacts on agricultural resources. The proposed Project changes would require the permanent conversion of substantially more acres of important farmland than the approved Project. (DSEIR/S, p. 14-1.) The DSEIR/S attributes this increase primarily to changes in tunnel muck storage and the new Byron Tract Forebay construction. (DSEIR/S, p. 14-3.) The proposed Project would also interfere with nine additional miles of agricultural delivery and drainage systems. (DSEIR/S, p. 14-5.) The DSEIR/S does not treat these impacts as new impacts, and only analyzes them in comparison to the approved Project. (See DSEIR/S, pp. 14-4 to 14-6.) Additionally, the locations of these new impacts are not disclosed. (DSEIR/S, pp. 14-4 to 14-6.) While these impacts are classified as significant and unavoidable in both the FEIR/S and DSEIR/S, this does not absolve DWR's duty to analyze them in a subsequent EIR under CEQA Guidelines section 15162.

The discussion of Impact AG-2 is also too narrow, considering the broad range of potential impacts on agriculture the proposed Project would have. The DSEIR/S notes that the conversion of farmland and construction of Project facilities would "create indirect but adverse effects on agriculture" yet does not discuss any of these impacts in detail. (DSEIR/S, p. 14-5.) There is a passing reference to "effects related to seepage from forebays" as well as "changes to groundwater elevation" but neither of these impacts are analyzed, nor is adequate mitigation provided. (DSEIR/S, p. 14-5.) The only impact quantified in the DSEIR/S under Impact AG-2 is the nine-mile increase in interference with irrigation.

With regard to mitigation for agricultural resources, the DSEIR/S simply refers back to the FEIR/S for a description of the mitigation measures. (DSEIR/S, pp. 14-5 to 14-6.) Continuing to rely on the same flawed mitigation measures from the approved Project is impermissible given the proposed Project's new and worse impacts. The total lack of disclosure, discussion, or analysis of the mitigation measures prevents the public from being informed of the entire Project. No discussion is made or evidence put forward to indicate that these past mitigation measures are appropriate for the proposed Project's new impacts.

Further, the recycled use of old mitigation measures brings up issues identified during the approved Project's environmental review. The proposed Agricultural Land Stewardship ("ALS") mitigation program is ineffective. The FEIR/S does not provide a clear explanation of when the ALS approach will be applied over the conventional

mitigation approach, nor does it include enforceable performance standards. (Mitigation Monitoring and Reporting Program ("MMRP"), pp. 2-41 to 2-50.) Mitigation Measure GW-5, which calls for the future development of measures to address seepage, is impermissibly deferred mitigation. (MMRP, pp. 2-7 to 2-9.) Under CEQA, mitigation may be deferred only when it is known to be feasible but practical considerations prevent the development of such measures. (*Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 93; *Sacramento Old City Assn. v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011, 1028.) Given that the proposed Project does not make any changes to mitigation measures, these critiques remain relevant.

The lack of disclosure of and the failure to analyze agricultural impacts, along with inadequate mitigation, render the DSEIR/S defective under CEQA.

V. The DSEIR/S Fails to Properly Mitigate Cultural Resource Impacts

The DSEIR/S incorrectly characterizes important cultural resources in the Delta. Many historic Delta homes, including the Rosebud Rancho, would be destroyed or otherwise damaged by the Project. The DSEIR/S asserts that the Rosebud Rancho "has lost integrity" and recommends initiating delisting procedures and not applying any mitigation to the site. (DSEIR/S, p. 18A-2.)

Rosebud Rancho is a 150 year old Italianate Victorian home, located between the Delta towns of Freeport and Hood. (See Exhibit 4, p. 3 [National Register of Historic Places Nomination Form].) It was designed by renowned architect, Nathaniel Goodell, for William Johnston in 1868. (Exhibit 4, p. 6.) Once part of a 1200 acre working ranch with a 400' dock that served as port to ship fresh produce and dairy to the gold fields as well as to San Francisco, it continues to be a private residence and important to the local history and culture of the area. (Exhibit 4, p. 6.) Johnston was not only a prominent farmer, he was also a founding member of the Grange, a State Legislator and he served with distinction as California Senator Pro Tem. (Exhibit 4, p. 8.) In 1979, Rosebud was accepted by the National Register of Historic Places, citing its magnificent architecture as well as the importance of her architect and prominence of the original owner. (See Exhibit 4, p. 1.)

Contrary to the false information in the DSEIR/S Rosebud has not "lost integrity", and in fact has been restored to its Victorian magnificence. Following a fire in 1989, local architect Bob McCabe, famous for his commitment to historical building restoration, supervised the painstaking work of repairing Rosebud after the fire. After providing photographs and documented details of the restoration it was recertified and in 1993 Rosebud won the California Preservation Foundation's award for Craftsmanship. Exhibit 5 is an excerpt from the tenth annual California Preservation Foundation Awards,

including the submitted photographs detailing the perseveration effort. "Their decision to retain as much of the original historic fabric as possible was pursued with an impressive zeal. Burned structural members were retained and encapsulated; burned sections of the original doors and woodwork were repaired with inlays and regrained; This project showed great dedication and skills on the part of all involved." (Exhibit 5, p.1.) The DSEIR/S conclusions regarding the Rosebud Rancho are unfounded. Given that the Project would directly impact this irreplaceable historic cultural resource (DSEIR/S, p. 18A-2), adequate disclosure and mitigation are required.

VI. The DSEIR/S Fails to Analyze Traffic, Public Service and Public Health Impacts

The proposed Project would increase traffic delays and degrade road conditions in the Delta to significant and unavoidable levels. (DSEIR/S, p. 19-1.) The DSEIR/S does identify which road segments will not be overburdened by the proposed project as opposed to the approved Project. (See DSEIR/S, p. 19-17.) However, the characterization that the Project would "not affect" these road segments is misleading. Each of those sections would see increases in traffic due to the Project. (See DSEIR/S, pp. 19-22, 19-23, 19-25.) Two of the segments, Cal Trans 35 and Cal Trans 61 would have levels of service exceeding their respective thresholds with or without the Project. However, this does not absolve DWR from considering these roads as impacted by the Project. In fact, Cal Trans 61 would exceed its level of service threshold by virtue of the Project, regardless of background growth. (DSEIR/S, p. 19-25.) Lead agencies must still analyze a project's incremental impacts even when baseline conditions are already impaired. (*Banning Ranch Conservancy v. City of Newport* (2012) 211 Cal.App.4th 1209, 1233; see also CEQA Guidelines, §15125, subd. (a); §15126.2, subd. (a).) Ignoring these exacerbated conditions violates CEQA.

The DSEIR/S fails to offer any comparison between the approved and proposed Project with respect to levels of service. (See DSEIR/S, pp. 19-19 to 19-28.) As a result, it is difficult to ascertain whether some segments would have increases in traffic under the proposed Project. This is another example of the DSEIR's failure to clearly disclose the effects of the Project, as compared to the previously approved Project with which the public is more familiar.

Between Chapters 19: Transportation, 20: Public Services and Utilities, and 25: Public Health, the DSEIR/S does not disclose or discuss how increases in traffic would impede emergency responders. (See Exhibit 6 [Written Testimony of David Robinson].) The Project's traffic increases throughout the Delta would prevent fire departments and law enforcement from effectively responding to emergencies, potentially endangering public health and safety. This complete oversight is a result of a narrow approach to

analysis. Traffic was only analyzed considering raw traffic levels and road quality (see DSEIR/S, Ch. 19), while utilities were analyzed with an eye towards increased demand (see DSEIR/S, Ch. 20). Evidence in the record suggests that the Project would have an impact on the effectiveness of emergency responders, and the DSEIR/S violates CEQA for omitting any discussion of this impact. (*Protect the Historic Amador Waterways*, *supra*, 116 Cal.App.4th 1099, 1109)

Conclusion

Thank you for considering these comments. As explained above and in other comments submitted by the public, the DSEIR/S is inadequate and must be revised and recirculated for public review. Close attention to the requirements of CEQA could lead to full disclosure as required by law; however, as a policy matter, the Project continues to place unacceptable burdens on Delta lands, communities and the environment and should be rejected in favor of better alternatives.

Very truly yours,

SOLURI MESERVE
A Law Corporation

By: 
Osha R. Meserve

Exhibits

1. MWD Email
2. ITP Excerpt
3. Testimony of Richard Denton
4. Rosebud National Register Documents
5. Rosebud CA Preservation Foundation Award
6. Testimony of Dave Robinson

EXHIBIT 1

This exhibit is excluded from the record in accordance with the hearing officers' oral ruling on 9/26/2018.

From: Bednarski,John V
Sent: Friday, February 2, 2018 11:21 AM
To: Janet Barbieri
Subject: RE: Is this correct?

See what you think of this.

How is it possible for one tunnel to move more than half of what it was supposedly designed for?
The conceptual design of the WateFix infrastructure provides for a complete and integrated system from intakes to pumping facility. As such, are facilities are configured to work together under a specified set of conditions, and significant operational deviations from baseline conditions are not possible. In order to accommodate a higher flow rate in the tunnels, the original 2015 concept design of the pumping facilities, the facilities included in the Final EIR/EIS, was modified. Examples of the changes required to transition to a staged WaterFix program included utilizing larger pumps, and deepening the pump well structure to accommodate the larger pumping equipment. That said, there are also a suite of permits that regulate how the system is operated. The physical features and the operational permits combined set the limits on how much water will move through the system.

John Bednarski PE

213 217 5526 (office)
213 248 1006 (cell)

700 N. Alameda St
Los Angeles CA 90012

From: Janet Barbieri [mailto:janet@jb-comm.com]
Sent: Friday, February 02, 2018 9:51 AM
To: Bednarski,John V
Subject: Is this correct?

How is it possible for one tunnel to move more than half of what it was supposedly designed for?
The regulating feature in how much water can move through the system is based on the capacity of the pumping facility, not the tunnel. That said, there are also a suite of permits that regulate how the system is operated. The physical features and the operational permits combined set the limits on how much water will move through the system.

EXHIBIT 2

control baffles will be designed to evenly distribute the approach velocity to each screen such that it meets the approach velocity design criteria. The flow control baffle guides will also serve as guides for installing bulkhead gates (after removal of the flow control baffles) for maintenance of each screen bay. The bulkhead gates will be designed to permit dewatering of a screen bay under normal river conditions.

All fish screen bays groups will be separated by piers with guides to allow for installation and removal of screen and solid panels as well as the flow control baffle system and bulkheads; these features will be removable by gantry crane. Piers will support the operating deck set with a freeboard of 18 inches above the 200-year flood level with sea level rise (44.4 feet at Intake 2 from the sill invert, 48.4 feet at Intake 3, and 43.2 feet at Intake 5). Permittee will raise the levee in the immediate area, and within the Project Area as shown in Attachment 1, Figures 6 and 7, to provide a freeboard of three feet above the 200-year flood level with sea level rise. At the upstream and downstream ends of the intake structure, training walls made of sheet piles will transition from the concrete structure into the river-side of the levee. Sheet pile training walls will have a radius of 200 feet and will be upstream and downstream of the intake structures to provide improved river hydraulics and vehicular access to the operating deck. These walls will enclose the areas between fish screens and the levee upstream and downstream of the screens.

North Delta Diversion Intake Construction Activities

Initial Site Work: Construction of Intakes 2, 3, and 5 will take approximately four to five years each. Before site work commences, the Permittee will implement erosion and sediment controls in accordance with the Storm Water Pollution Prevention Plan (SWPPP). Early phase tasks to facilitate construction will include mobilization, site work, and establishing concrete batch plants, pug mills, and cement storage areas. During mobilization, the Permittee will bring materials and equipment to construction sites; set up work areas; locate offices, staging and laydown areas; and secure temporary electrical power. Site work will consist of clearing and grubbing, constructing site work pads, establishment of stockpiles and staging and storage areas, site fencing, onsite electric (such as a substation), erection of temporary construction buildings (primarily offices and storage), and defining and building construction access roads. During site work, Project personnel will use large vehicles and vehicle-mounted equipment such as cranes. Permittee will construct new roads and bridges within each intake site (Attachment 1, Figures 6 and 7). Permittee will place substantial amounts of engineered fill (borrow fill) landward of the levee, amounting to approximately 2 million cubic yards (cy) at each intake site. This fill material will be used primarily in levee work, pad construction for the fills (see fill pad section below), and other placements that will be

EXHIBIT 3

Sharon L. Anderson (SBN 94814)
County Counsel
Stephen M. Siptroth (SBN 252792)
Deputy County Counsel
Kurtis C. Keller (SBN 287724)
Deputy County Counsel
CONTRA COSTA COUNTY
651 Pine Street, 9th Floor
Martinez, California 94518
Telephone: (925) 335-1800
Facsimile: (925) 646-1078
Emails: stephen.siptroth@cc.cccounty.us; kurtis.keller@cc.cccounty.us; ryan.hernandez@dcd.cccounty.us

Attorneys for Contra Costa County and Contra Costa County Water Agency

Dennis Bunting (SBN 55499)
County Counsel
Daniel M. Wolk (SBN 238349)
Deputy County Counsel
SOLANO COUNTY
675 Texas Street, Suite 6600
Fairfield, California 94533
Telephone: (707) 784-6140
Facsimile: (707) 784-6862
Email: dwolk@solanocounty.com

Attorneys for Solano County

BEFORE THE

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

HEARING IN THE MATTER OF CALIFORNIA DEPARTMENT OF WATER RESOURCES AND UNITED STATES BUREAU OF RECLAMATION REQUEST FOR A CHANGE IN POINT OF DIVERSION FOR CALIFORNIA WATERFIX	PART 2 REBUTTAL TESTIMONY AND SUMMARY OF TESTIMONY OF DR. RICHARD A. DENTON, PH.D., P.E., SUBMITTED ON BEHALF OF CONTRA COSTA COUNTY, CONTRA COSTA COUNTY WATER AGENCY, AND SOLANO COUNTY

1. Declaration of Qualifications

I, Dr. Richard Denton, declare that I am a Water Resources Consultant and sole-proprietor of Richard Denton and Associates. I have 45 years of experience in the areas of hydraulics and water quality. I received my Bachelor of Engineering (Civil) with First Class Honours in 1972 from the University of Canterbury, Christchurch, New Zealand. I received a Doctor of Philosophy (Ph.D.) in Civil Engineering in 1978 from the University of Canterbury. I am a registered Civil Engineer in the State of California (C47212).

From 1989 to 2006, I was an employee of the Contra Costa Water District ("CCWD"), Concord, California, and served for much of that time as Water Resources Manager. From 1982 to 1989, I was an Assistant Professor in Civil Engineering (Hydraulic and Coastal Engineering) on the faculty of the University of California at Berkeley. During the mid-80s, while at U.C. Berkeley, I prepared four detailed technical reports on the currents and water quality in San Francisco Bay under a contract from the State Water Resources Control Board ("SWRCB").

I have been involved in SWRCB Bay-Delta water right and water quality hearings since 1989. I have extensive experience analyzing Central Valley operations and flow and salinity regimes in the Sacramento-San Joaquin Delta ("Delta"). I provided key input to the environmental review and water rights permitting for CCWD's Los Vaqueros Project and development of the 1994 Bay-Delta Accord. Since 1996, I participated in development and permitting of the Grassland Bypass Project which regulated agricultural runoff and resulted in significant decreases in selenium and salinity loads from the west side of the San Joaquin Valley. I also served as chair of the CALFED Operations and Fish Forum from 2001 to 2006.

In 1995, I received the first annual Hugo B. Fischer Award from the California Water and Environmental Modeling Forum in recognition of my development and innovative application of a salinity-outflow model for the Delta. In 2010, I received a

Career Achievement Award from the California Water and Environmental Modeling Forum.

As a Water Resources Consultant, I assisted CCWD's completion of the environmental permitting of CCWD's Middle River Intake Project and Los Vaqueros Enlargement Project. I am currently assisting Contra Costa County, the Contra Costa County Water Agency, and Solano County on issues related to the California WaterFix Project and efforts to restore the Delta ecosystem and increase California's water supply reliability.

I am the author of 13 academic papers in peer-reviewed journals, 10 papers in conference proceedings and 6 research reports. A copy of my statement of qualifications has been accepted into the hearing record as Exhibit CCC-SC-2.

2. Summary of My Detailed Rebuttal Testimony

Preparation of detailed rebuttal testimony regarding the current WaterFix project is very difficult without access to accurate and representative modeling of the current version of project operations and its adverse effects on water quality in the Delta.

The most recent modeling study of the proposed WaterFix project released to the SWRCB and the public, CWF H3+, does not represent the current version of the project. CWF H3+ is the Project adopted by DWR that is the subject of the Petition for Change in Point of Diversion requested by DWR and Reclamation. (Exhibit DWR-1010, Page 2, Line 15)

Because SWP contractors are expected to fund most of the cost of the WaterFix twin tunnels, almost all of the exports through the north Delta diversion facility ("NDD") will be SWP water. This is different than what was assumed in CWF H3+.

If the twin tunnels are operating in the spring and summer primarily or exclusively for the SWP, then CWF H3+ misrepresents the relative drawdown of the State Water Project ("SWP") and Central Valley Project ("CVP") upstream reservoirs. The corresponding environmental impacts due to changes in the flows and temperatures

downstream of the major upstream dams are also not simulated accurately or disclosed.

The CWF H3+ modeling also assumed a Rio Vista minimum flow requirement from January through August. However, that flow requirement is not among Petitioners' operating criteria for the WaterFix project, as currently proposed. This also makes the CWF H3+ modeling unacceptable for the purposes of this Part 2 hearing.

The CWF H3+ modeling, and earlier modeling studies, used a redefined export/inflow ("E/I") ratio that allows more water to be exported from the Delta than allowed under D-1641. This redefined E/I ratio does not apply to or limit exports through the twin tunnels (isolated facility) in the north Delta, which means the E/I ratio's original biological purpose, to protect against entrainment of fish, eggs and larvae, is not achieved. The Petitioners' fishery expert, Dr. Marin Greenwood, testified in Part 2 that eggs and larvae are present above the north Delta intakes.

The Petitioners have proposed the WaterFix project operating criteria be modified in the future through adaptive management within a range bounded by the Boundary 1 and Boundary 2 scenarios. However, the Boundary 1 alternative does nothing to provide additional protection for fish and the Delta ecosystem: no Fall X2 requirements and no enhanced spring outflows. If the WaterFix project were to be operated to Boundary 1 operating criteria, Delta outflows would be dangerously low, especially in the Fall, resulting in even greater adverse impacts on water quality in the Delta than disclosed for CWF H3+.

The CWF H3+ modeling, released to the public by the Petitioners as part of their Part 2 case-in-chief, fails to consistently increase exports in wetter months ("Big Gulp") and increases exports above existing levels in drier months when Delta outflows are very low and the Delta ecosystem is most vulnerable. This is the exact opposite of the claim made by the Petitioners that the proposed WaterFix project will "*improve the ecosystem through reduction and reverse flow occurrences, flow patterns that will become more consistent with natural flow patterns, by increasing exports in the wetter periods and decreasing them in the dryer* [sic.] *periods ....*" (Transcript, February 22,

2018, Page 44, Line12.) Instead of taking a "Little Sip" during drier periods, the proposed WaterFix project takes a huge gulp.

The SWRCB should consider including a permit term that limits exports based on Delta outflow so exports would indeed be reduced during drier periods (*i.e.*, achieve the "Little Sip" concept), and to help improve, restore and sustain the Delta ecosystem.

The Petitioners' claim that the CWF H3+ scenario is within the range of Alternative 4A, scenarios H3 and H4, is incorrect and misleading. The CWF H3+ scenario has more stringent restrictions on south Delta exports in April and May and less restriction on Old and Middle River ("OMR") flows in October and November. These major differences in operating criteria result in Delta outflows, south-of-Delta exports and Delta salinities for CWF H3+ that are well outside the range of scenarios H3 and H4.

The Petitioners have failed in Part 2 to present the CWF H3+ Delta inflow and outflows in a form that informs the SWRCB whether the WaterFix project is consistent with the SWRCB's 2010 Delta Flow Criteria or the proposals being considered by the SWRCB as part of the current update to the Bay-Delta Water Quality Control Plan.

The Part 2 proposed WaterFix project, CWF H3+, still shows up to 30% reductions in the Sacramento inflow to the Delta at Freeport, and it shows daily-averaged chloride concentrations near the intake to the Contra Costa Canal that are well in excess of the SWRCB's D-1641 Municipal and Industrial daily water quality standard of 250 mg/L. These are the same problems I identified in my Part 2 case-in-chief testimony using earlier WaterFix modeling for the Biological Assessment, BA H3+.

Without accurate and representative modeling and analysis of the proposed project, the SWRCB will lack the basis to make an accurate or informed decision about the environmental, water quality and water supply impacts or benefits of the project, or the impacts of the project on legal users of water. The SWRCB should reject the WaterFix change petition until the Petitioners correct this myriad of problems with their proposed project.

3. <u>The Current Modeling and Analyses (CWF H3+) Do Not Represent Current Version of Proposed WaterFix Project</u>.

The California WaterFix Administrative Draft Supplemental Environmental Impact Report/Environmental Impact Statement (the "ADSEIR/EIS"), released to the public by the California Department of Water Resources ("DWR") and U.S. Bureau of Reclamation ("Reclamation") on June 12, 2018 (Exhibit SWRCB-113), based its analysis of the environmental impacts of the proposed project on the same modeling study, CWF H3+, submitted into evidence by DWR in Part 2 of this hearing (Exhibits DWR-1077 and DWR-1078).

Final internal review and approval for meeting the requirements of the California Environmental Quality Act ("CEQA") and National Environmental Policy Act ("NEPA") have not been completed by DWR and Reclamation, and the ADSEIR/EIS is not a public draft environmental document. However, DWR is unlikely to revise the ADSEIR/EIS to include an updated modeling study before release of the official public California WaterFix Draft Supplemental Environmental Impact Report/Environmental Impact Statement (the "Draft SEIR/EIS").

The CWF H3+ modeling assumes that the federal CVP will divert up to 4,600 cubic feet per second (cfs) of water for export via the twin tunnels. This is the maximum amount that the CVP can divert at the Jones Pumping Plant up into the Delta Mendota Canal.

Figure 1 in CCC-SC-52[1] shows the modeled CVP exports via the WaterFix twin tunnels as a function of the total amount diverted through the twin tunnels, based on the DWR's CWF H3+ modeling data. The proposed maximum capacity of the two tunnels is 9,000 cfs. Tables 1 and 2 in CCC-SC-52 present the 82-year average export data by month and the monthly-averaged CVP isolated facility export data, respectively.

On average, the CVP received about 40% of the total exports through the twin

[1] Exhibit CCC-SC-52 is a true and correct copy.

tunnels (also referred to as the "isolated facility"). In many months, all of the water going through the twin tunnels was for the CVP (100% share).

In the staged implementation (single tunnel) modeling released by DWR on February 7, 2018[2], there was only a single, 6,000-cfs tunnel and the CVP share was capped at only 1,000 cfs (CCC-SC-52, Table 3.)

The Metropolitan Water District of Southern California ("Metropolitan") Board of Directors is scheduled to vote on July 10, 2018, on a staff recommendation to pay for the entire second tunnel and a share of the first tunnel, or 64.6% of the project cost (Exhibit CCC-SC-67[3]). Metropolitan already voted to fund the second tunnel on April 10, 2018 but a revote was required for procedural reasons.

The CVP share of the twin tunnels' diversions will therefore be much less than assumed in CWF H3+, possibly even zero. This decision results in an inadequate analysis of upstream SWP and CVP reservoir operations and the environmental impacts in key fish species downstream of those reservoirs. The SWRCB did not require the Petitioners to provide new modeling data that represents this significantly-reduced CVP share.

Because CWF H3+ assumes the CVP share of the twin tunnels can be up to 51% of the total capacity, the CWF H3+ modeling used in the ADSEIR/EIS and in Part 2 fails to adequately simulate the relative releases from the CVP upstream reservoirs (Shasta and Folsom Reservoirs) and the SWP's Oroville Reservoir, or the flows in the rivers downstream of those reservoirs and down into the Delta (CCC-SC-52, Figure 2.) If the CVP use of the twin tunnels is limited, releases of stored water from Shasta and Folsom Reservoirs are likely to be less than in CWF H3+ modeling, and the drawdown of Oroville Reservoir by the SWP is likely to be greater.

These water levels and downstream flows are very important for fish and senior

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[2] https://www.californiawaterfix.com/resources/updated-calsim-dsm2-and-biological-modeling-data/

[3] Exhibit CCC-SC-67 is a true and correct copy of selected slides from the document

water right holders in Northern California. Unless the Petitioners present updated and more detailed operations and water quality modeling reflecting the new SWP and CVP shares of twin tunnel diversions, the SWRCB will lack the basis to make an accurate or properly informed decision about the key hearing issues, such as the impacts on key fish species and legal users of water in the upstream tributaries.

4. <u>The Current Modeling and Analyses (CWF H3+) Do Not Accurately Represent Sacramento Flows at Rio Vista during January through August</u>.

During cross-examination of DWR's expert witness, Eric Reyes, on February 27, 2018, by Solano County's attorney, Daniel Wolk, Mr. Reyes acknowledged that DWR's CWF H3+ model study includes a minimum Rio Vista flow requirement of 3,000 cfs for January through August (the "Rio Vista Flow Standard"). (Transcript, February 27, 2018, Page 194 starting at Line 21.)

Mr. Reyes testified that he thought this was just a modeling assumption and not a part of the proposed WaterFix project. It was something that was just left in the model.

Unless DWR intends the Rio Vista Flow Standard to be an operating criterion and permit term, DWR has failed to provide the State Board with modeling that represents the actual proposed project.

Mr. Reyes stated his belief that there was only one month when WaterFix operations were controlled by the Rio Vista Flow Standard. (Transcript, February 27, 2018, Page 198 starting at Line 16.) In fact, for CWF H3+ there are four months when flow and export operations in the Delta by the SWP and CVP were determined by the need to meet this Rio Vista Flow Standard. There are also two months when the September-December D-1641 Rio Vista standard is not met and Rio Vista flows are less than 3,000 cfs, *i.e.*, September-October 1934 (see Exhibit CCC-SC-53[4], Table 1).

[4] CCC-SC-53 is a true and correct copy.

This is a clear modeling error that has not been explained by the Petitioners. The same D-1641 modeling error occurs in the No Action Alternative ("NAA") for September and October 1934.

Mr. Reyes testified that the Rio Vista Flow Standard "*was something done as a modeling convenience because early editions of this were showing low outflows in certain months. So that was difficult for the DSM-2 model to process, so we needed something just to keep the flows higher until we essentially worked out what our issues were. And those issues were worked out, however, the criteria was left in, just the modeling*." (Transcript, February 27, 2018, Page 197 starting at Line 4.)

The SWRCB needs the opportunity to review proposed WaterFix project modeling that does not include this Rio Vista Flow Standard in order to make a fair and legal determination regarding the proposed WaterFix project. The SWRCB needs to be able to determine whether the proposed WaterFix project and north Delta diversions would result in unreasonably low Rio Vista flows and Delta outflows, in both the CALSIM II simulations and in actual future operations with the proposed WaterFix project.

The SWRCB should also consider whether a Rio Vista Flow Standard permit term is needed, January through August, to ensure the SWP operators do not cause Delta outflows to become very low once the WaterFix project comes on line. As Mr. Reyes testified (Transcript, February 27, 2018, Page 197, starting at Line 4), the earlier modeling indicated this could be a problem.

Such unreasonably low outflows would result in large increases in seawater intrusion and significant adverse impacts on water quality in the Delta.

Unless all operating criteria and D-1641 standards are correctly simulated in the WaterFix modeling, the SWRCB will lack the basis to make an accurate or properly informed decision about the key hearing issues.

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5. <u>The Current Modeling and Analyses (CWF H3+) Do Not Accurately Represent How the Proposed Project Will Actually Be Operated Under Adaptive Management</u>.

The Petitioners have testified that the WaterFix adaptive management range varies from the Boundary 1 to Boundary 2. (Exhibit DWR-1010, Page 9, Line 3; Transcript, February 22, 2018, Page 66, starting at Line 22.)

The Boundary 1 Scenario has essentially no additional environmental flows or export constraints. Boundary 1 does not include the Fall X2 requirement from the U.S. Fish and Wildlife Service 2008 Biological Opinion (Exhibit SWRCB-87) and recommended by the SWRCB in its 2010 Delta Flows Criteria Report (Exhibit SWRCB-25) and the California Department of Fish and Wildlife's[5] 2010 "Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta" (Exhibit SWRCB-66).

The 82-year averaged Delta outflows for Boundary 1 in September, October, and November are much lower than the NAA (Exhibit CCC-SC-54[6], Figure 1). Figure 2 of Exhibit CCC-SC-56[7] shows how individual months in September that are between 18,000-20,000 cfs in the NAA are reduced to as low as 3,000 cfs for Boundary 1. If WaterFix were operated to these low Delta outflows under adaptive management, there would be a corresponding increase in seawater intrusion in the fall, resulting in significant degradation of Delta water quality (in terms of EC and chloride concentrations). (see, *e.g.*, Figure 1 and Table 1 in CCC-SC-56).

Because the Petitioners are considering using adaptive management to enable them to operate the proposed WaterFix project according to Boundary 1 operating criteria, the proposed project could cause significant water quality impacts in the Delta, beyond those reported by the Petitioners for the CWF H3+ modeling. The

[5] At that time, called the Department of Fish and Game.
[6] Exhibit CCC-SC-54 is a true and correct copy.
[7] Exhibit CCC-SC-56 is a true and correct copy.

corresponding impacts on legal users of water could also be larger than disclosed by the Petitioners in Part 1 for Scenarios H3 and H4 (or CWF H3+.)

The SWRCB must include permit terms in the revised SWP and CVP permits that ensure that WaterFix adaptive management actions to improve conditions for fish do not result in worsening of Delta water quality (as would occur operating to the Boundary 1 Scenario under adaptive management) and increased impacts on other legal users of water.

6. <u>The Current WaterFix Modeling (CWF H3+) Is *Not* Within the Range of Alternative 4A, Scenarios H3 and H4</u>.

The Petitioners testified in Part 2 of this hearing that "*CWF H3+ is the Project adopted by DWR that is the subject of the Petition for Change in Point of Diversion requested by DWR and Reclamation.*" (Exhibit DWR-1010, Page 2, Line 15). The Petitioners further claim in Part 2 that CWF H3+ is within the range of alternatives described in Part 1 and within the operational range of Alternative 4A, Scenarios H3 to H4. (Exhibit DWR-1008, Slide 5; Exhibit DWR-1010, Page 8, Line 26.)

Under cross examination, the Petitioners' witnesses acknowledged that the flows, exports and salinities for the proposed WaterFix project CWF H3+ were outside the range of scenarios H3 and H4 in some months (see, *e.g.*, Transcript, February 27, 2018, Page 186, Line 8; Transcript, February 27, 2018, Page 201, starting at Line 4).

The Petitioners attempt to argue that their description of Alternative CWF H3+ being within the range of H3 and H4 only refers to operating criteria (*e.g.,* Transcript, February 22, 2018, Page 213, starting at Line 8.)

However, the SWRCB's determination of whether there are significant adverse impacts of the proposed project on the Delta ecosystem, the environment and legal users of water should be based on the reservoir storage levels, the flows and temperatures for fish in upstream tributaries and the Delta, the degradation of water quality in the Delta due to reduced outflows, and other related parameters. These

parameters are the result of specific operating criteria, such as minimum flow limits and maximum EC and chloride standards, but the bottom line is their impacts on the environment and legal users of water.

The operating criteria for Scenarios H3 and H4, and the Biological Assessment modeling BA H3+ included October and November limits on flow reversals in Old and Middle River (OMR > -5,000 cfs). The operating criteria for CWF H3+ eliminated ("updated") these OMR limits (Exhibit DWR-1028, Slide 11). OMR limits are intended to benefit fish. The elimination of OMR limits in CWF H3+ significantly reduced Delta outflows in October compared to both H3 and H4, and significantly increased salinities in the Delta.

Scenarios H3 and H4 had specific OMR operating criteria in October and November, but CWF H3+ did not include such OMR operating criteria, so CWF H3+ is not within that range of operating criteria. More importantly, as is discussed below, degradation of Delta water quality in October, November and December is much greater in CWF H3+ than either H3 or H4.

6. 1 The WaterFix modeling and operations criteria have changed significantly since the Scenario H3 and H4 model runs.

It is important to remember that the Petitioners' Delta conveyance project has been continually changing since the start of the original Bay Delta Conservation Plan ("BDCP") in 2006. The BDCP proposed project had adverse water quality impacts for EC and chloride concentrations that were determined to be "*significant and unavoidable*" (Exhibit SWRCB-5, Chapter 8 – Water Quality).

The WaterFix conveyance-only project was announced publicly in April 2015. The Petitioners have determined that, with the proposed WaterFix project, those salinity-related water quality impacts are less than significant (Exhibit SWRCB-110, Pages 125-128). That finding is based on mitigation measure WQ-11: *Avoid, minimize or offset, as feasible, reduced water quality conditions*. DWR intends to achieve this

mitigation measure and "avoid" water quality impacts by adaptively managing diversions at the north and south Delta intakes, and by adaptively managing the Head of Old River barrier, if feasible (Exhibit SWRCB-110, Page 125).

When the Petitioners developed Scenarios H3 and H4, they assumed the 2009 National Marine Fisheries Service Biological Opinion (Exhibit SWRCB-84, Page 632 and Page 642 *et seq.*) requirements for the limits on the ratio of San Joaquin inflow to south Delta exports (April 1 through May 31) would not need to be met for the WaterFix project. (Exhibit DWR-116.)

However, in preparing the WaterFix Biological Assessment (Exhibit SWRCB-104) and the BA H3+ modeling, the Petitioners complied with the NMFS 2009 Biological Opinion's San Joaquin River Inflow to Export Ratio requirement (Action IV.2.1).

The BA H3+ modeling also was the basis for the WaterFix Final EIR/EIS that was released to the public on December 22, 2016.

Between the release of the WaterFix Final EIR/EIS to the public on December 22, 2016, and DWR's later certification of the WaterFix Final EIR/EIS on July 21, 2017 (Exhibit SWRCB-109), DWR and Reclamation consulted further with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the California Department of Fish and Wildlife. The corresponding biological opinions and Incidental Take Permit were issued on June 23, 2017, June 16, 2017 and July 26, 2017, respectively (Exhibit SWRCB-105, SWRCB-106 and SWRCB-107, respectively).

As part of those consultations with the fisheries regulatory agencies, the following additional modifications were made to the proposed project and incorporated into the certified WaterFix Final EIR/EIS (Exhibit SWRCB-109):

1. New Spring Delta outflow targets and criteria, March-May; and
2. Elimination of the -5,000 cfs minimum Old and Middle River flow (OMR) targets for October and November.

This resulted in a new modeling study CWF H3+ that served as the basis of the Petitioners' testimony in Part 2 of this hearing, and that served as the basis for DWR's

CEQA findings for the certified WaterFix Final EIR/EIS. The CWF H3+ modeling *was not made available to the public until November 30, 2017*. This was the date that DWR submitted its Part 2 Case-in-Chief, and it was the date when the Cases-in-Chief of all other Part 2 parties were due. This deprived Contra Costa County, the Contra Costa County Water Agency, and Solano County of the opportunity to review, prior to submitting their Part 2 testimony, the full CWF H3+ modeling – *the modeling that DWR relied on when preparing its Part 2 testimony*. As discussed in more detailed in section 6.3 below, there are significant adverse water quality impacts in CWF H3+ that were in the modeling for previous versions of the WaterFix project such as BA H3+ and Scenarios H3 and H4.

The removal of the October-November minimum OMR targets resulted in lower Delta outflows in October and November.

The WaterFix proposed project operational criteria were also refined based on 2017 USFWS and NMFS biological opinions by including a new real-time operations approach for the following (Exhibit DWR-1008, Slide 6):

- North Delta Intake Bypass Flows
- South Delta export criteria for October-November
- Head of Old River Gate operations.

However, these real-time operations were not incorporated into the CWF H3+ modeling.

6.2 In August 2017, the Petitioners failed to produce available CWF H3+ full model runs after Contra Costa County, Contra Costa County Water Agency, and Solano County requested those data to inform their Part 2 testimony.

The parties to Part 2 were seriously prejudiced in preparing their Part 2 testimony and exhibits because the CWF H3+ modeling was not made available until November 30, 2017, even though it was the basis of DWR's certification of the WaterFix Final

EIR/EIS on July 21, 2017. Contra Costa County, Contra Costa County Water Agency, and Solano County specifically requested any updated WaterFix modeling in August 2017, but were only directed to modeling data that were described as "*not a full run but instead just sensitivity information*." (Exhibit CCC-SC-57[8], email from B.G. Heiland (DWR) to Richard Denton, August 31, 2017.) DWR did not acknowledge that the CWF H3+ full model runs had already been completed by mid-May 2017.

The Zip file for the CWF H3+ CALSIM operations modeling output (Exhibit DWR-1077) is dated 4/28/2017. The Zip file for the CWF H3+ DSM2 EC water quality modeling output (Exhibit DWR-1078) is dated 5/15/2017. These key WaterFix modeling data model runs were completed early enough that DWR could have made the model runs available to the parties and the public well before the November 30, 2017 deadline for submission of Part 2 cases-in-chief. Moreover, these full model runs were available at the time of Contra Costa County, Contra Costa County Water Agency, and Solano County's request in August 2017. DWR failed to produce the available full model runs at a time when the agencies were preparing their Part 2 case-in-chief.

6.3 The CWF H3+ operations criteria and resulting flow and water quality simulations model runs are very different than the Scenario H3 and H4 range.

Modeling study CWF H3+ is the basis for the environmental analysis in the WaterFix ADSEIR/EIS, released to the public on June 12, 2018. There are three major differences in operations criteria between Alternative 4A, Scenarios H3 and H4, and the current version of the proposed WaterFix project, CWF H3+:

1. CWF H3+ complies with the April-May limits on the ratio of San Joaquin inflow to south Delta exports (Exhibit DWR-116).
2. CWF H3+ has new Spring Delta outflow targets and criteria, March-May

[8] Exhibit CCC-SC-57 is a true and correct copy of the document.

3. The -5,000 cfs minimum OMR flow targets for October and November in Scenarios H3 and H4 and BA H3+ are eliminated.

These new operations criteria substantially reduced total south-of-Delta exports in April and May and reduced Delta outflows in October relative to Scenarios H3 and H4. This reduction in Delta outflows in October results in a corresponding increase in seawater intrusion into the Delta and net degradation of water quality.

Figure 1 in Exhibit CCC-SC-58[9] shows the October Delta outflows for CWF H3+ relative to the corresponding outflows from the NAA for water years 1922-2003. Also plotted are the October outflows for Alternative 4A, Scenario H3 and H4, the basis of the Petitioners' testimony in Part 1 of this hearing. The outflows for Scenarios H3 and H4 are generally higher than the NAA, but the CWF H3+ outflows are the same or slightly lower.

Figure 2 in Exhibit CCC-SC-58 shows the November Delta outflows for CWF H3+ relative to the corresponding outflows from the NAA for water years 1922-2003. Also plotted are the November outflows for Alternative 4A, Scenario H3 and H4. Only outflow data less than 16,000 cfs are plotted because changes in outflow at low outflow have the greatest effect on seawater intrusion and water quality in the Delta. When Delta outflows are less than 10,000 cfs, all of the with-project alternatives have Delta outflows close or equal to the D-1641 Delta outflow standards (Exhibit SWRCB-21) and are lower than the NAA outflows.

Figure 2 in Exhibit CCC-SC-54 shows the 82-year averages Delta outflows for each month for the NAA, CWF H3+ and Alternative 4A, Scenario H3 and H4. In October, the long-term averaged outflows for Scenarios H3 and H4 are generally higher than the NAA, but the CWF H3+ average outflow is slightly lower than the NAA.

Figure 1 in Exhibit CCC-SC-54 shows the 82-year averages Delta outflows for each month for the NAA, CWF H3+, and Boundary 1 and Boundary 2. Boundary 1 is

[9] Exhibit CCC-SC-58 is a true and correct copy.

the worst-case scenario for adaptive management of the proposed WaterFix project because Delta flows are low, seawater intrusion into the Delta increases and there is less protection for fish. Unlike the other WaterFix alternatives in Figure 1, Boundary 1 does not include the Fall X2 requirements (Exhibit DWR-515).

Boundary 2 in Figure 1 (Exhibit CCC-SC-54) is representative of, but not as stringent as, the SWRCB's 2010 Delta Flow Criteria report recommendations (Exhibit SWRCB-25). If Boundary 2 criteria were operated, WaterFix annual south-of-Delta exports would be much less than either CWF H3+ or the NAA (CCC-SC-59, Figure 3).

In September, October and November, the Boundary 1 outflows are even less than for CWF H3+, representing even larger seawater intrusion to the Delta than for the CWF H3+ alternative. In all months, except April and May, the Boundary 2 outflows are much higher than for CWF H3+ suggesting CWF H3+ will not leave enough unimpaired flow in the Central Valley and Delta systems to meet the outflows recommended by the SWRCB in its 2010 Delta Flow Criteria Report as necessary to restore and sustain key fish species.

Figure 1 in Exhibit CCC-SC-55[10] shows the increases in salinity (EC) in Old River at Bacon Island relative to the No Action Alternative (NAA) due to the proposed Water Fix project CWF H3+. Also shown are the increases in EC for Alternative 4A, scenarios H3 and H4. This was the range of the WaterFix proposed project presented by the Petitioners in Part 1 of this hearing. The version of the project for the Biological Assessment and public release of the Final EIR/EIS, BA H3+, is also plotted. The averaging is for the 16 years from October 1, 1975 through September 30, 1991. CWF H3+ EC changes are well outside the range of H3 and H4 in October, November, December, February, March, and April. There is significant degradation of water quality, in terms of salinity, in October, November, March, April and June.

The Petitioners acknowledged these large increases in EC and chloride

[10] Exhibit CCC-SC-55 is a true and correct copy.

concentration under cross-examination. (Transcript, February 22, 2018, starting at Page 199, Line 11.) Figure EC3 (Exhibit DWR-1015, Page 22) suggests the 16-year averaged EC at San Andreas Landing for the proposed WaterFix project, CWF H3+, will be greater than the NAA from September-November and February-June. Water quality degradation on individual days or months could be even greater. CWF H3+ is outside the range of Alt. 4A, scenarios H3 and H4 (Part 1 proposed project) in October-November and February- April.

Figure CL1 in Exhibit DWR-1015, Page 24, suggests the 16-year averaged chloride concentration at the Contra Costa Canal for the proposed WaterFix project, CWF H3+, will be greater than the NAA from September-November, February-April, and June. CWF H3+ is outside the range of Alternative 4A, scenarios H3 and H4 (Part 1 proposed project) from October-April.

The Petitioners have attempted in Part 2 to minimize these changes from the Part 1 modeling (Scenarios H3 and H4) to the Part 2 modeling (CWF H3+), and the corresponding significant increase in adverse impacts on the Delta ecosystem, the environment and legal users of water.

In Exhibit DWR-1028, Slide 4, the Petitioners state the comparison of CWF H3+ with BA H3+ (sensitivity analysis): "*showed that overall operations including upstream storage, river flows, and water supply deliveries remained similar.*" In Exhibit DWR-1028, Slide 6, the Petitioners testify the August 2016 Biological Assessment included only one set of operations criteria (H3+) and claim "*the July 2017 NOD included slight revisions to H3+.*"

This is not correct. One of those changes, elimination of the October-November OMR limits, was a major change, and it produced significant decreases in Delta outflow in October and large increases in salinity in the Delta in October, November and sometimes December.

In the Petitioners' water quality PowerPoint (Exhibit DWR-1027, Slide 4), the Petitioners claim:

- CWF H3+ EC results generally fall between H3 and H4;
- CWF H3+ D-1641 M&I and Ag Water Quality Objectives are met the majority of the time; and
- Any small percentage of probability of exceedence is equal to or less than the NAA except at Emmaton which has a slightly higher probability.

These claims also are not correct. Figures 1 and 2 in Exhibit CCC-SC-55 clearly show that significant increases in salinity in the Delta relative to Scenarios H3 and H4 in October and November and significant water quality degradation in those months relative to the NAA. Since passage of the 2009 Delta Reform Act, it is State policy that the Bay-Delta should be managed to achieve the inherent objective of improving water quality to protect human health and the environment consistent with achieving water quality objectives in the Delta (Cal. Wat. Code, § 85020(e)).

Solano County, Contra Costa County and the Contra Costa County Water Agency submitted detailed CEQA/NEPA comments on the WaterFix Final EIR/EIS (released for public review and comment on December 22, 2016), including a comment by Solano County that "*the Final EIR/EIS is inadequate because it presents modeling data for a number of different versions of the preferred alternative (Alternative 4A), but not the current version of the Project*." (Exhibit SWRCB-108, page 78.)

The Petitioners' response to Solano County's CEQA/NEPA comment was:

> *"Commenter claims that the Delta outflow under Alternative 4A H3+ scenario does not fall within H3 and H4 scenarios. This is incorrect. Changes in long-term average Delta outflow under Alternative 4A (ELT) as compared to the No Action Alternative (ELT) and Existing Conditions are shown in Figures 5-37 through 5-39 and Tables 5-10 through 5-12. As shown in Figure 5F.4-27, the incremental changes in Delta exports under H3+ compared to the No Action Alternative are found to be within the H3 and H4 scenarios."*

This response to Solano County's comment is inadequate. The figures referred

to in the Petitioners' response (Exhibit SWRCB-108, page 78) are based on H3+ modeling, but it is BA H3+ modeling, not the project that was adopted, CWF H3+. The responses to this comment should have been based on a comparison with the adopted and then "*current version*" of the proposed WaterFix project.

It is clear from the Delta outflow and Delta water quality data for the CWF H3+ alternative in Exhibits CCC-SC-54 and CCC-SC-55, and the Petitioners' own testimony (Exhibit DWR-1015), that, in some months, the CWF H3+ Delta outflows and Delta EC and chloride concentrations are indeed well outside the range of Scenarios H3 and H4.

The Petitioners describe these changes in Figure 1 of Exhibit DWR-1010, but either (1) ignore the application of the April-May limit on the San Joaquin inflow to south Delta exports ratio, or (2) incorrectly categorize the April-May limit as "*updated spring outflow criteria*." Limiting exports from the south Delta as required by the 2009 NMFS Biological Opinion (Exhibit SWRCB-84) can result in increased Delta outflows, but not in every case. The effect of reducing exports from the south Delta could sometimes be offset by increased exports from the new north Delta intakes, or releases from upstream reservoirs could be reduced.

The Petitioners have made significant changes to their project since Part 1 but have failed to adequately analyze and disclose those changes. The changes have resulted in reductions in Delta outflows at key times of the year, reduced exports in April-May which resulted in increased exports in later months (Exhibit CCC-SC-59[11], Figures 1 and 2), and significant adverse impacts on EC and chloride concentrations in the Fall.

Without detailed information about these significant impacts and a commitment by the Petitioners to fully mitigate those impacts, the SWRCB will lack the basis to make an accurate or informed decision about the key hearing issues.

[11] Exhibit CCC-SC-59 is a true and correct copy.

7. The Petitioners Incorrectly Redefine the SWRCB's D-1641 Export/Inflow Standard to Eliminate North Delta Exports from This Standard.

The Petitioners have arbitrarily redefined the export/inflow ratio in Water Rights Decision 1641 ("D-1641") to allow more water to be exported (Exhibit SWRCB-21, pages 184-187.) The current definition of the export/inflow ratio in D-1641 is (total exports) divided by (total Delta inflow), where all the exports currently come from the south Delta.

The Petitioners have redefined the export/inflow ratio as (south Delta exports) divided by (total Delta inflow, minus North Delta exports). (Exhibit SWRCB-102, 2016 Final BDCP/California WaterFix EIR/EIS, Chapter 3, pages 3-38.)

This redefinition would allow the Petitioners to export more water than the official D-1641 definition, especially in June. A detailed analysis of the CWF H3+ modeling data shows that the total south-of-Delta exports for CWF H3+ exceeded the exports that would have been allowed if the WaterFix project had been modeled using the original SWRCB D-1641 definition of the E/I ratio in 57 months out of the total 82 x 12 = 984 months, October 1921 through September 2003. (Exhibit CCC-SC-61[12].)

The Petitioners' redefinition of the export/inflow ratio means that exports through the north Delta intakes would be unconstrained by the export/inflow standard. There would be no limit on total exports due to the export/inflow standard during periods when exports were only being made through the north Delta intakes. If south Delta exports are zero, the export/inflow ratio as redefined by the Petitioners is also zero.

This is unacceptable because it eliminates the D-1641 protection against entrainment of eggs and larvae at the Delta export pumps and intakes, in this case, at the proposed north Delta intakes, It is contrary to the State's co-equal goal of policy of protecting, restoring, and enhancing the Delta ecosystem (Cal. Wat. Code, § 85054)

[12] Exhibit CCC-SC-61 is a true and correct copy.

and the State policy of restoring the Delta ecosystem, including its fisheries and wildlife, as the heart of a healthy estuary and wetland ecosystem. (Cal. Wat. Code, § 85020 (c).)

7.1 The original biological objective for the export/inflow ratio was to reduce entrainment of fish, egg, and larvae entrainment.

The November 3, 1994 "Biological Explanation of the Joint Water Users Proposed Bay-Delta Standards"[13] formed the basis for development of the December 1994 Bay-Delta Accord and the new Bay-Delta standards in D-1641. I was a contributor to that proposal. Key excerpts from the Biological Explanation are given in Exhibit CCC-SC-62[14].

The Biological Explanation document makes clear that the goal of the export/inflow limits was to reduce fish, egg and larvae entrainment and mortality at the pumps. The Biological Explanation document, at page 2-19, states that the Biological Objective of the Export/Inflow ratio is to: "*Reduce fish, egg, and larvae entrainment and mortality at the pumps through export restrictions and intensive real-time monitoring/response designed to detect presence of fish in areas adjacent to the pumps.*"

The Biological Explanation document, at page 2-19, states that the Intended Benefits of the Export/Inflow ratio include that "*exports should decrease during those years when fresh water inflow to the Delta is decreased and a larger percentage of fish and other aquatic organisms are geographically distributed further upstream where their susceptibility to export losses is increased*." (Exhibit CCC-SC-62.)

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[13] The November 3, 1994 "Biological Explanation of the Joint Water Users Proposed Bay-Delta Standards" can be downloaded from the following link: *https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/wq_control_plans/1995wqcp/admin_records/part05/368.pdf*

[14] Exhibit CCC-SC-62 is a true and correct copy of selected pages from the document.

7.2 The Petitioners' fishery expert testified eggs and larvae of fish species would occur at the north Delta intakes.

Petitioners' fishery expert in Part 2, Dr. Marin Greenwood, provided testimony that eggs and larvae would be present above the north Delta intakes and therefore susceptible to entrainment at that location:

- "*CWF H3+ NDD are outside the main range of Delta Smelt and Longfin Smelt and therefore are limited in their potential to cause adverse effects such as entrainment of larvae. However, there is a potential for restricted access of smelts to shallow water habitat upstream of the NDD and this potential effect will be mitigated with 1,750 acres of restoration*." (Exhibit Exhibit DWR-1012, Page 4, Line 2.)
- *Striped Bass and American Shad egg/larval entrainment at NDD*
  - *Most spawning upstream of NDD*
    - *Striped Bass eggs/larvae drift downstream to Delta*
    - *Many American Shad rear upstream*
  - *Some protection from spring flow criteria (less exports)*

  (Exhibit DWR-1029, Slide 34.)
- "*BDCP-covered fishes in my testimony (White Sturgeon, Sacramento Splittail, Pacific and River Lamprey) spawn upstream of the Delta and generally move downstream into the Delta and adjacent areas as larvae or juveniles, as do Striped Bass and American Shad*." (Exhibit DWR-1012, Page 51, Line 16.)
- *"Entrainment of Striped Bass and American Shad early life stages (eggs and larvae) was found to be a significant and unavoidable impact in the FEIR/S. Striped Bass spawn in and upstream of the Delta. Eggs and larvae move downstream at small sizes that could make them susceptible to entrainment at the NDD. The FEIR/S (Exhibit SWRCB-102, Section*

11.3.5.2, Impact AQUA-201, p. 11-3537) found that the entrainment of Striped Bass at the NDD would constitute a significant and unavoidable impact of the CWF H3+, based primarily on assessment of ten spring (March, April, May, or June) simulated monthly periods of DSM2 particle tracking modeling results for the H3 operational scenario." (Exhibit SWRCB-102, Section 11.3.4.2, Table 11-1A-96, p. 11-679.)" (Exhibit DWR-1012, Page 52, Line 16.)

Export/inflow limits are needed at both the south and north Delta intakes to protect against entrainment of eggs and larvae of Delta smelt and other key fish species.

In Part 1, the Petitioners (Jennifer Pierre) dismissed the effect of the change in definition of the export/inflow ratio as inconsequential. (Transcript, Friday, July 29, 2016, Page 233, Line 10.) The CWF H3+ data presented in Exhibit CCC-SC-61 suggest additional water is able to be exported, primarily in the month of June. Redefining D-1641 standards to allow additional delta exports in months when the additional exports would not otherwise be permitted is not inconsequential.

7.3 The Petitioners even used a third definition of the export/inflow ratio in Scenarios H2 and H4.

The Petitioners appear to have made an additional, unexplained, assumption: in the case of Alternative 4A, Scenarios H2 and H4, the Sacramento River inflow was assumed to be upstream, rather than downstream, of the proposed north Delta intakes. (Exhibit SWRCB-102, Chapter 3, Page 3-39, Footnote 57.)

"In computing the E/I ratio for Scenarios H1 and H3, the Sacramento River Inflow is considered to be downstream of the north Delta intakes. However, in computing the E/I ratio for Scenarios H2 and H4, the Sacramento River inflow was assumed to be upstream of the proposed north Delta intakes."

Scenario H4 was a version of the proposed project presented in Part 1 of this hearing. This is an arbitrary third definition of the export/inflow ratio in D-1641.

The WaterFix project must operate to the original definition of the export/inflow ratio to help reduce the entrainment of eggs and larvae at the north Delta intakes. Unless new modeling is provided that complies with the D-1641 standard, the SWRCB will lack the basis to make an informed decision.

The SWRCB should include a permit term in any new or revised SWP and CVP water rights permits that clearly defines the export/inflow ratio, as applied to DWR and Reclamation operations, as (total north and south exports) divided by (total Delta inflow).

8. New Version of Proposed Project (CWF H3+) Does Not Comply with "Big Gulp, Little Sip" Concept.

The Petitioners claim in Part 2 of this hearing that the proposed WaterFix project, as represented by CWF H3+, will "*reduce water exports in drier years when Delta aquatic resources are subject to increased stresses; and increase Delta exports in wetter years when aquatic resources are not as affected by stresses in the Delta*." (Exhibit DWR-1010, Page 12, Line 2.)

During their oral testimony, the Petitioners claimed WaterFix will "*improve the ecosystem through reduction and reverse flow occurrences, flow patterns that will become more consistent with natural flow patterns, by increasing exports in the wetter periods and decreasing them in the dryer* [sic.] *periods ....*" (Transcript, February 22, 2018, Page 44, Line 12.)

This "*Big Gulp, Little Sip*" concept was one of the early Planning Principles adopted by the Steering Committee for the original Bay-Delta Conservation Plan (BDCP), *i.e.*, "*Divert more water in the wetter periods and less in the drier periods*." (Exhibit CCC-SC-12, Bay Delta Conservation Plan, March 2009 brochure, "An Overview and Update," Page 6.) The BDCP and WaterFix project proponents often promoted this

"*Big Gulp, Little Sip*" concept. (Exhibit CCC-SC-13.)

In my written case-in-chief testimony (Exhibit CCC-SC-3, Page 11, Line 21), I discussed how the WaterFix BA H3+ modeling did not comply with either the "Big Gulp" or "Little Sip" portion of the concept. The proposed WaterFix project cannot consistently capture extra water for export reductions during wet periods when Delta outflows are very high. Similarly, in many dry months when Delta outflows are very low and the Delta ecosystem is stressed, the WaterFix project would increase south-of-Delta exports above the existing typical combined permitted capacity of 11,280 cfs. In some cases, dry-period total exports would be increased by as much as 30 percent.

The version of the proposed WaterFix project submitted by the Petitioners for Part 2 of this hearing, CWF H3+, likewise fails to comply with the "Big Gulp, Little Sip" concept. (Exhibit CCC-SC-63[15]).

To ensure the proposed WaterFix project does not rely on exports from the Delta during dry periods, the SWRCB should limit total exports based on Delta outflow. For example, the SWRCB could limit total SWP and CVP south-of-Delta exports to 1.5 times the Delta outflow (the red diagonal line in Figure 1 of Exhibit CCC-SC-63). An example of this kind of limit was previously shown in Figure 5 in Exhibit CCC-SC-17.

A limit on exports based on Delta outflow would reduce exports during drier periods (i.e., achieve the "Little Sip" concept) and help improve, restore and sustain the Delta ecosystem.

9. <u>The Proposed WaterFix Project, CWF H3+, Sometimes Reduces Rather than Increases Sacramento Inflows to the Delta at Freeport</u>.

In my case-in-chief written testimony (Exhibit CCC-SC-3, Page 17, Line18), I discussed how the WaterFix project (based on BA H3+ modeling) sometimes <u>reduced</u> Sacramento River inflows to the Delta (well above the proposed North Delta Intakes) by

[15] Exhibit CCC-SC-63 is a true and correct copy.

as much as 30 percent.

As shown in Figure 1 of Exhibit CCC-SC-64[16], the new proposed WaterFix project (CWF H3+) also reduces Sacramento River flows at Freeport by as much as 30 percent.

The SWRCB, in its 2010 Delta Flow Criteria Report (Exhibit SWRCB-25), recommended significant increases of Sacramento inflow to the Delta and Delta outflow would be necessary in January through June in the Delta ecosystem for fishery protection, under existing conditions. Some of the reductions in flows, as measured at Freeport, caused by the proposed WaterFix project occur during the January through June period.

It is not sufficient to control the flow in the Sacramento River downstream of the NDD using percentage bypass rules. This would control how much of the inflow at Freeport can be diverted into the twin tunnels and what percentage should be left in the river to protect migrating anadromous fish species, but does not require absolute Sacramento inflow targets. The WaterFix project should be setting enhanced inflow targets such as those recommended in 2010 by the SWRCB and California Department of Fish and Wildlife, not reducing Sacramento inflows to the Delta.

Before the SWRCB can make an informed decision on the Petitioners' petition, the Co-Hearing Officers should require the Petitioners to analyze and disclose the reduction in inflows to the Delta at Freeport due to the WaterFix project, and to present this information as part of this hearing, so that the corresponding significant adverse environmental impacts of these flow reductions on the Bay-Delta ecosystem can be fully understood.

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[16] Exhibit CCC-SC-64 is a true and correct copy.

10. Petitioners have Eliminated Minimum Old and Middle River (OMR) Flow Limits of -5,000 cfs for October and November Without Explaining the Consequences.

In my case-in-chief written testimony (Exhibit CCC-SC-3, Page 20), I discussed how the WaterFix modeling (BA H3+ and earlier versions like Alternative 4A, Scenario H3 and H4) had artificially high Delta outflows in October, which resulted in underestimation of adverse water quality impacts in the Delta in October, November, and sometimes December.

To simulate a 14-day shut down in south Delta exports during the October pulse flow on the San Joaquin River (modeled as October 16-31) in BA H3+ (Exhibit DWR-1075, Exhibit DWR-1076), the Petitioners assumed that Old and Middle River (OMR) flows would be limited to a minimum of -5,000 cfs during the whole month of October. (See Exhibit DWR-515, p. 6, Table 3, footnote c.) The same -5,000 cfs minimum OMR limit was also applied in November in the earlier CALSIM II modeling studies.

However, the most recent version of the WaterFix project modeling (CWF H3+) has removed these -5,000 cfs minimum OMR flows. In the July 2017 "Developments after Publication of the Proposed Final Environmental Impact Report" (Exhibit SWRCB-108 at Page 130), the Petitioners describe this change as follows:

> *"Changes to south Delta export constraints: In the Final EIR/EIS and in the BA, operational criteria included additional Old and Middle River (OMR) flow requirements and south Delta export restrictions during October and November. For the proposed action, these OMR flow requirements and the south Delta export restrictions were removed."*

The Petitioners have not explained why these south Delta export restrictions, based on OMR flows, were removed, or whether CWF H3+ model study accurately simulates the 14-day shut down in south Delta exports during the October pulse flow on the San Joaquin River. What is apparent, however, is that removing these October and

November OMR restrictions reduces Delta outflows in October in particular, and causes significant adverse increases in EC and chlorides concentrations in the Delta in the fall, relative to the NAA.

As shown in Figure 1 in Exhibit CCC-SC-58, the outflows in October for Scenarios H3 and H4 are generally higher than the NAA, but the CWF H3+ outflows are lower. November Delta outflows for Scenarios H3 and H4 and CWF H3+ are all generally lower than the NAA. (Figure 2 in Exhibit CCC-SC-58.)

The Petitioners have failed through the CEQA/NEPA process, and through this Change Petition hearing process, to fully disclose the degradation of water quality in the Delta (increased EC and chloride concentrations) that would occur with the WaterFix CWF H3+ version of the proposed project.

For example, in Exhibit DWR-1027, Slide 4, the Petitioners present the following bullets:

- CWF H3+ EC results generally fall between H3 and H4
- CWF H3+ D-1641 M&I and Ag Water Quality Objectives are met the majority of the time
- Any small percentage of probability of exceedance is equal to or less than the NAA except at Emmaton which has a slightly higher probability

In Slide 5 (Exhibit DWR-1027), the Petitioners merely acknowledge that exceptions to CWF H3+ falling between H3 and H4 occur when (Petitioners' bullets):

- Higher spring outflow requirements resulted in less exports and as a result higher interior Delta salinity (south of the SJR)
- Removal of export constraints in the fall results in lower Delta Outflow and higher salinity.

The Petitions fail to disclose significant adverse water quality impacts in the Delta. It is not sufficient to state that the proposed project will meet legally required D-1641 water quality objectives a majority of the time. The Petitioners should have acknowledged that there will be large increases in EC at Emmaton relative to the NAA

from October through December (Exhibit DWR-1027, Slide 18).

The elimination of the OMR limits for October-November result in large increases in chloride concentration at the intake to the Contra Costa Canal relative to the version of the WaterFix project presented in Part 1 of this hearing, Alternative 4A, Scenarios H3 and H4 (Exhibit DWR-1027, Slide 24). The largest increases occur in October and November, but the chloride concentrations for CWF H3+ are outside the range of, and higher than, the chlorides for H3 and H4 for October through April (Exhibit DWR-1027, Slide 24).

The Responses to Comments on the WaterFix Final EIR/EIS (Exhibit SWRCB-102) also appear to be based on the earlier BA H3+ modeling and not on the CWF H3+ modeling that was supposed to represent the adopted project in the certified WaterFix Final EIR/EIS. By changing their project between the public release of the WaterFix Final EIR/EIS and the certification of the WaterFix Final EIR/EIS, and by not acknowledging these changes in their Responses of Comments, the Petitioners have failed to disclose these significant adverse water quality impacts to the public and the SWRCB.

The ADSEIR/EIS, released on June 12, 2018 (Exhibit CCC-SC-66[17]), further exacerbates this failure to disclose and adequately mitigate significant adverse water quality impacts. The water quality chapter, Chapter 8, only consists of three pages (Exhibit CCC-SC-65[18]) and compares the new proposed project with modified facilities with the adopted project CWF H3+. The adverse impacts of CWF H3+ relative to both the public WaterFix Final EIR/EIS (BA H3+) and the NAA are not disclosed.

The environmental documents prepared by the Petitioners fail to adequately disclose the significant adverse impacts of the proposed WaterFix project on Delta water quality and fail to provide the basis for the SWRCB to make an accurate or fully informed decision on the municipal, industrial and environmental water quality impacts

[17] Exhibit CCC-SC-66 is a true and correct copy of this document.
[18] Exhibit CCC-SC-65 is a true and correct copy of this document.

of the WaterFix project.

11. Petitioners do not Disclose Whether CWF Delta Inflows and Outflows Are Consistent with the SWRCB's 2009 Delta Flow Criteria Recommendations.

In my case-in-chief written testimony (Exhibit CCC-SC-3, Page 36), I discussed how the Petitioners have previously failed to disclose how the ratios of Delta inflows and outflows to unimpaired flow for the WaterFix alternatives compare with the SWRCB's 2010 Delta Flow Criteria (Exhibit SWRCB-25). I provided evidence based on an earlier WaterFix modeling study, BA H3+, that showed the simulated WaterFix Delta outflows are typically well below SWRCB's recommendation of 75 percent of unimpaired flow during January through June (Exhibit CCC-SC-35.)

California Water Code section 85086(c)(2) states: "*Any order approving a change in the point of diversion of the State Water Project or the federal Central Valley Project from the southern Delta to a point on the Sacramento River shall include appropriate Delta flow criteria and shall be informed by the analysis conducted pursuant to this section. The flow criteria shall be subject to modification over time based on a science-based adaptive management program that integrates scientific and monitoring results, including the contribution of habitat and other conservation measures, into ongoing Delta water management.*"

The Petitioners case-in-chief for Part 2 of this hearing again failed to provide evidence in a form (e.g., percentages of unimpaired flow) that would allow the SWRCB to determine whether CWF H3+ is consistent with the 2010 inflow and outflow recommendations of the SWRCB and California Department of Fish and Wildlife (Exhibits SWRCB-25 and SWRCB-66, respectively).

The Petitioners acknowledge that this hearing will include consideration of "appropriate Delta flow criteria" as described in the Delta Reform Act and stated by Hearing Officers in the California WaterFix Hearing Ruling Regarding Scheduling of Part

2 and Other Procedural Matters, August 31, 2017, page 12. (Exhibit DWR-1010, Page 10, Line 17.)

The Petitioners offer the increased spring Delta outflow criteria in CWF H3+ as benefiting aquatic resources consistent with the USFWS and NMFS Biological Opinions and the Delta Reform Act. (Exhibit DWR-1010, Page 10, Line 21.) However, no evidence is provided that discloses whether these increases in CWF H3+ are sufficient to match the SWRCB's 2010 Delta Flow Criteria recommendations.

In fact, the 82-year average Delta outflows in March in CWF H3+ are lower than the outflows in Alternative 4A, scenario H4. (Exhibit CCC-SC-58, Figure 3.)

Unless the Petitioners provide evidence and testimony regarding the percentages of unimpaired flow that apply to different WaterFix alternatives, the SWRCB will lack the basis to make accurate or fully informed decisions about the whether the flows are sufficient to full protect fish species and about other key issues for this hearing.

12. <u>Excessive Exceedances of Water Quality Standards Render the Water Quality Modeling Useless for Analyzing and Disclosing Water Quality Impacts of Proposed WaterFix Projects</u>.

Figure 1 of Exhibit CCC-SC-60 shows the full 82-year subset of daily-averaged Old River at Bacon EC data from the WaterFix proposed project CWF H3+ modeling for the month of November. As was shown in Exhibit CCC-SC-55, Figure 2, the long-term averaged salinities for CWF H3+ at this location were the highest in November compared to all other months.

The data plotted are for the water years 1922 through 2003 (82 x 30 = 2,460 data points). Data above the 1:1 diagonal line represent adverse water quality impacts of the proposed WaterFix project. Data points below the diagonal line represent improvements in water quality.

My case-in-chief testimony was based on the Biological Assessment modeling

for the Proposed Action, BA H3+ (Exhibit CCC-SC-28, Figure 5). That earlier WaterFix alternative assumed OMR minimum flows of -5,000 cfs in October and November. This resulted in artificially high outflows in the fall which resulted in an unrealistic improvement in water quality. The current WaterFix proposed project CWF H3+ eliminated these OMR restrictions in October and November. The Delta outflows were much lower resulting in significant water quality degradation in the Delta with respect to salinity (Exhibit CCC-SC-55, Figure 2.)

Figure 1 in Exhibit CCC-SC-60[19] shows based upon the water quality modeling for the WaterFix project that the project is still fatally flawed. The daily EC values are often well in excess of 1,053 µS/cm, which is the equivalent of 250 mg/L chloride concentration (according to the conversion equations in Exhibit DWR-509). The D-1641 compliance location in this area for both the 250 and 150 mg/L chloride standards is off Rock Slough at the intake to the Contra Costa Canal. The water quality at this compliance location is strongly influenced by the water quality at the Bacon Island station. The highest EC value for the No Action Alternative is 2,846 µS/cm, which is the equivalent of 761 mg/L chloride concentration.

These extremely high EC values should not be dismissed as anomalies as the Petitioners have suggested (Exhibit DWR-66, Page 3, Line 7.) They are too frequent and persistent. Having chloride concentrations as high as 761 mg/L in an area where the maximum allowable daily value is 250 mg/L renders the water quality impact analysis invalid.

In real-time operations of the Delta by the SWP and CVP project operators, the 250 mg/L standard would be met, by among other things, increasing Delta outflow. To reduce chloride concentrations from 700 mg/L or more down to 250 mg/L would require a significant amount of additional outflow which would typically reduce the amount of water that could be exported at that time. Those export losses are often made up in

[19] Exhibit CCC-SC-60 is a true and correct copy.

subsequent months in real-time Delta operations or by additional reservoir releases. This could then shift adverse impacts to subsequent months, something that is not disclosed in this flawed modeling study.

Unless the daily D-1641 Municipal and Industrial water quality standards are met in the WaterFix operations and water quality modeling, the SWRCB will lack the basis to make an accurate or properly informed decision about the key hearing issues.

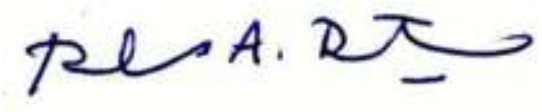
13. <u>Petitioners do not Present an Operations and Water Quality Analysis of the Proposed WaterFix Project When the Enhanced Spring Outflows Are Provided Through Contracts with Willing Sellers</u>.

The enhanced Spring outflows that were incorporated into CWF H3+ require that water to meet these outflow targets be purchased from willing sellers in the tributaries upstream of the Delta (Transcript, February 22, 2018, Page 69, starting at Line 16.) The Petitioners have not presented any evidence that there are any willing sellers who will contribute to compliance with the Biological Opinion Spring Outflow Criteria and have contracted with DWR to provide that water. The Petitioners have also failed to identify a dedicated funding source for these water purchases.

The Petitioners modeled the enhanced Spring flows by reducing exports, not as less local diversion or additional reservoir releases upstream (which would result if there were voluntary water transfers). The Petitioners need to present modeling showing the environmental impacts of the WaterFix project for a range of conditions from full access to willing sellers to no willing sellers. The Petitioners should also clarify how the SWP and CVP will share the responsibility for meeting these enhanced Spring flows. (Transcript, February 22, 2018, Page 72, Line 1.)

Without this information, the SWRCB will lack the basis to make an accurate or fully informed decision about the WaterFix project will have adverse impacts on key fish species, the Delta ecosystem and legal users of water.

Executed on this 11th day of July, 2018, in Oakland, California.



Richard A. Denton, Ph.D., P.E.

EXHIBIT 4

This exhibit is excluded from the record in accordance with the hearing officers' oral ruling on 9/26/2018.

From Cheryl and John Cox, Owners
Documents attached: 12 pages plus this cover

Rosebud Rancho
Also known as Rosebud Farm

National Register of Historic Places
Nomination and Signed Certification (Page C-102412
July 21, 1979

Followed by
January 19, 1993 Letter from Office of Historic Preservation
Stating no action to delist Rosebud Rancho after the restoration work was completed in 1993, following 1989 fire.

LAND-309-Revised

LAND-309

NPS-8-300 (11-78)

United States Department of the Interior
Heritage Conservation and Recreation Service

National Register of Historic Places Inventory—Nomination Form

For HCRS use only
received
date entered

See instructions in How to Complete National Register Forms
Type all entries—complete applicable sections

1. Name

historic: Rosebud Ranch

and/or common: Rosebud Farm

2. Location

street & number: P. O. Box 61 (one and one-half miles north of Hood) ___ not for publication

city, town: Hood X vicinity of congressional district: 14

state: California code: 06 county: Sacramento code: 067

3. Classification

Category	Ownership	Status	Present Use	
___ district	___ public	X occupied	___ agriculture	___ museum
X building(s)	X private	___ unoccupied	___ commercial	___ park
___ structure	___ both	___ work in progress	___ educational	X private residence
___ site	Public Acquisition	Accessible	___ entertainment	___ religious
___ object	___ in process	___ yes: restricted	___ government	___ scientific
	___ being considered	X yes: unrestricted	___ industrial	___ transportation
		X no	___ military	___ other:

4. Owner of Property

name: Dennis Grey Richard Lambert (owner of barn only), Hood, CA

street & number: P. O. Box 61

city, town: Hood X vicinity of state: California

5. Location of Legal Description

courthouse, registry of deeds, etc.: Sacramento County Courthouse

street & number: 901 'G' Street

city, town: Sacramento state: California

6. Representation in Existing Surveys

title: None has this property been determined elegible? ___ yes ___ no

date ___ federal ___ state ___ county ___ local

depository for survey records

city, town state

C—102404

C-102404

7. Description

Condition		Check one	Check one
___ excellent	___ deteriorated	___ unaltered	X original site
X good	___ ruins	X altered	___ moved date _____
X fair	___ unexposed		

Describe the present and original (if known) physical appearance

Rosebud Ranch was a 19th century farm complex of structures sited close to the Sacramento River and containing at least 1200 acres of land during its prime years of activity and production.

At present, the remaining components of the complex include the main house, water tower, smokehouse, two garage-type buildings, three small sheds, and a small 2 room building. The barn, part of the original complex, now lies on land owned by another individual.

The main house, built by William Johnston and designed by Nathaniel Goodell in approximately 1877, is the original ranch residence and the focal point for the farm grouping. The structure is a two story (with raised basement) wooden Italianate building with a low hipped roof over the front portion and a gabled section to the rear. Its design includes virtually all the earmarks of Italianate styling: the windows are slightly arched; there are wooden quoins at the building corners in imitation of the masonry detailing of Italian Renaissance prototypes. The proportions are vertical in emphasis, and carefully elegant; and there is a paneled frieze, elaborate brackets, and soffited eaves. The window facings are much more elaborate than in the standard builder's version of the style: a series of increasingly recessed moulding profiles create a rich textural surface and complex shadow lines. The carved section across the top of the window is doubled, with the second set of mouldings projecting beyond the lower to form a drip sill. A keystone tops the window composition.

The porch occupies the northern portion of the west facade, and is supported by four fluted columns of the Corinthian order. The canopy was once topped by a balustrade. The porch and stair railings are quite wide and quite low, accentuating the high main floor ceilings and the vertical proportions of the house itself. Railings are carried on turned balustrades of classical derivation. Elaborate newel posts terminate in urn-like finials. The double entrance door is topped by a semi-circular transom.

The house sits upon a pedestal formed by a partially above ground basement story. The brick walls of the basement are pierced with arched window openings echoing those of the house above. The basement contains a wine cellar.

Decorative brackets support the structure's encircling cornice, as well as that of the stacked bays at each floor level, and the porch. They provide an important ornamental counterpoint to the horizontality of the window moulding and shiplap siding. Rather unusual colonettes decorate the corners of the angled bays, both at the facade and at the side. The two-story slanted bays provide a strong vertical compositional component.

The interiors of the house are very fine and essentially original. The interior entry hall is high ceilinged and very decorated with ornate molding designs and a ceiling medallion. The stair balustrade is turned, terminating in a handsome newel post. The wood is still painted with the false graining common to the period. A marble topped coffin corner occurs in the upper portion of the stair hall. The front parlor still retains all of its decorative cornice moldings, ceiling medallion, and flocked French wall paper.

The back parlor contains a handsome marble fireplace with fluted columns. Original drawing room sliding doors are still in place between it and the adjacent dining room.

FHR-8-300A
(11/78)

UNITED STATES DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE

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CONTINUATION SHEET 1 ITEM NUMBER 7 PAGE 1

Hardwood floors were installed in 1918 and glassed french doors placed between front and back parlors. The original sliding doors separating the two rooms remain in place recessed within the walls.

The dining room also contains a marble fireplace and decorative firescreen. The wainscoting is false grained in light and dark wood.

The additional room or rear parlor behind the formal dining room also contains a marble fireplace, elaborate ceiling: ulding and a ceiling medallion. This room has been extended somewhat to the north to enclose the former porch that extended along this side of the house.

The kitchen has been remodeled partially but still retains original wainscoting and cupboards, and hardware, dated 1872.

The brick walled basement contains various rooms including a wine cellar, a remodeled living unit with a bedroom and a parlor, a bathroom and several formerly used areas such as the coal bin, storage, etc.

The upstairs bedrooms are also essentially original, and contain built-in sinks with marble basins.

The rear portion of the upstairs has been remodeled to expand bedrooms over former porches and redo an older bathroom.

The gabled rear portion of the house contains the kitchen and servants' bedrooms, functioning essentially as a utility wing to the main house. A decorative cut balustrade extends along most of the rear of the house, enclosing a raised deck-like area.

The mansion contains eleven major rooms including six bedrooms, dining room, kitchen, living rooms, parlor, study, three baths, plus a full basement, with a wine cellar.

Alterations to the main house occur at the rear. The original rear side porch has been enclosed and bedrooms added above. A small additional two story extension has been added to the kitchen below and bathrooms above. It is also gabled and contains similar window mouldings to the original rear of the house.

The original porch on the rear north side of the house has also been enclosed and both the bedrooms and downstairs room expanded.

Decorative elements now missing include a turned balustrade above the porch and widow's walk topping the roof.

FHR-8-300A
(11/78)

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Exterior buildings include a pump house (water tower, four stories high), garage, brick smoke house, a two room cottage, and three small storage sheds. A 20 by 40 foot pool stands in a rose garden to the south.

The four story well house/pump tower is the most architecturally interesting of the numerous out buildings. The wall of the first three floors is battered and sheathed in shingles. The upper floor, whose walls are vertical is sheathed in shiplap siding. Six over six light double-hung windows puncture the surface at irregular intervals. There are brackets and a cornice to terminate the composition. The balustrade is a recent improvement, and allows enjoyment of a spectacular view of Rosebud Ranch, the river, and vast stretches of the San Joaquin Valley.

The barn is a rectangular two story gabled structure 60' wide and 90' long. The building is sheathed with shiplap siding and much of the ground floor is open for easy vehicular access. The barn lies just east of the present property line, but it is being included in the nomination because of its importance both visually and historically to the farm complex. The present owner of Rosebud Farm has plans to acquire the barn, and restore it to the farm holdings.

The smoke house is a one story brick structure, 10' by 15' with a hipped roof and a door centered in the north facade.

There are two garages, each 20' by 20'. The western-most is an open shed with a hipped roof. The other is roofed by a shallow gable and has sliding doors for vehicle access.

At the north eastern corner of the property are three sheds in a row behind a small cottage. The cottage is a one story, 15' by 25', two roomed gabled structure with vertical board and batten siding. The sheds, just north of the cottage, are all 7' by 10'. Two of them are identical, with flush horizontal siding and gabled roofs. The third has a single-pitch roof at a slight angle, and is sheathed with vertical boarding.

The original farm complex buildings, the house, pump house or water tower, smokehouse, and barn are important and informative remnants of the 19th century working ranch. As such, they retain more significance than other later remaining Rosebud structures, and are important to the visual imagery and setting of this fine complex.

8. Significance

Period	Areas of Significance—Check and justify below				
___ prehistoric	___ archeology-prehistoric	___ community planning	___ landscape architecture	___ religion
___ 1400–1499	___ archeology-historic	___ conservation	___ law	___ science
___ 1500–1599	___ agriculture	___ economics	___ literature	___ sculpture
___ 1600–1699	X architecture	___ education	___ military	___ social/ humanitarian
___ 1700–1799	___ art	___ engineering	___ music	___ theater
X 1800–1899	___ commerce	___ exploration/settlement	___ philosophy	___ transportation
___ 1900–	___ communications	___ industry	___ politics/government	___ other (specify)
		___ invention		

Specific dates Ca. 1877 **Builder/Architect** Nathaniel Goodell

Statement of Significance (in one paragraph)

Rosebud Farm, with the William Johnston residence, is a significant property both as an important design of a major architect, and as an outstanding architectural example of its type and style. The property also possesses historical importance due to its strong associations with two individuals of statewide significance.

The principal building of this original farm complex is the work of a master architect of the Sacramento area, Nathaniel Goodell. Goodell designed the Governor's Mansion and the Heilbron House in Sacramento, both of which are listed on the National Register of Historic Places. Architecturally, the structure is a virtually classic example of the Italianate style, rather highly ornamented considering the context of its rural environment.

The farm/ranch complex was built by an early California pioneer of note. William Johnston, its builder-owner, was an early California agricultural figure, as well as state legislator and Senator pro tem. Johnston was deeply involved in riparian rights during California's settlement days and served once as a commissioner and representative from California to Washington regarding river reclamation, successfully securing an appropriation.

Yet another individual of note associated with the house is the wellknown artist, Wayne Thiebaud, who lived in the house from 1967 to the mid-1970's. Thiebaud is a national arts figure w th work in most of the nation's major 20th century museum collections.

The architectural significance of the principal structure derives both from its high design qualities and its creation by a master architect.

This house was designed by Nathaniel Dudley Goodell, an early emigrant to Sacramento who became a highly respected architect in the Sacramento area. Goodell designed the sumptuous Albert Gallatin Mansion that served as the California State Governor's Mansion from the early 1900's until 1967. Goodell's Governor's Mansion is itself both recorded by HABS and listed on the National Register of Historic Places.

Goodell began his career as a carpenter and joiner. Born in Belchertown, Massachusetts, in 1814, he learned his trade at Amherst, and later went to Springfield for a year to continue his studies. His early works included the C ty Hall for Belchertown where he was born, three factories, and several hundred houses for the largest cotton manufacturing firm in the state. Thus he came to C lifornia as an experienced desi ner/builder unlike many emigrant/architects, who came to California and began the profession without any previous training in the field.

Goodell's first architectural work in Sacramento, the Wachhorst Jewelry store, was built in 1860. Although employed in the design of other buildings in the 1860's, he did not list himself as an architect in the city directories until 1869. Goodell's architectural office was located in the basement of Pioneer Hall, 1009 7th Street in Sacramento, a

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building he designed himself. Goodell was very active in the Sacramento Chapter of the Society of California Pioneers, his client for this work. He was president of the Pioneers 1877-78 and served as a director for 20 years.

Some of Goodell's notable architectural accomplishments during the 1870's and 1880's included the Sacramento Grammar School, the County Hospital, the Armory Hall, a home for Mrs. Crocker, a number of stores and residences, and the Masonic Hall in Woodland. He also designed alterations and additions for prominent Sacramentans including Leland Stanford, the Hale brothers, and both Huntington and Hopkins of the railroads "Big Four". The list of his works in the area is very extensive. Two of his designs, the Governor's Mansion and the Heilbron House, are listed on the National Register of Historic Places.

Goodell also did work in communities surrounding Sacramento including the Johnston House in Hood and the Masonic Hall in Woodland.

Goodell's earliest structures reflect his New England origins. His later designs such as the Heilbron and Gallatin houses, reflect the Second Empire and Italianate styles popular during the 1870's and 1880's in California.

Goodell's residential architecture had several distinguishing characteristics. The most notable is his use of the mansard roof. It appears that the majority of houses possessing mansard roofs in Sacramento in the 19th century were the work of Goodell. His Governor's Mansion is a uniquely fine rendition of this Second Empire work.

Another characteristic was his use of an ornate version of the Italianate style. Goodell's works are generally highly decorated. Several of his buildings have extremely ornate exteriors with bracketed cornices, deep hood mouldings over dormer windows, distinctive shingle patterns on the mansard roofs, slanted two story bays and elaborately decorated porches. He had a tendency to repeat the use of particular decorations on different buildings and thus developed some "trademarks" that serve to identify his work. His creative and facile use of wood most certainly stems from his background of carpentry.

His Heilbron House tends to combine the Italianate with Second Empire styles, adding a mansard roof and hooded dormers to an Italianate facade. The Johnston House is simpler and earlier, and reflects primarily Italianate features. As such it appears to be the largest and finest extant example of Goodell's work in this style.

The massing of the Johnston House is more compact and lacks the tower of the Governor's Mansion, but its decorative detail is rich and varied. The composition of the structure reflects one of the standard formats of the style with its slanted facade bay next to

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an ornamented canopied entry. The verticality of Italianate styling influences is reflected in the design elements of the facade. Classic ornament has been modified to conform to Italianate expressions and slender tall windows with their accompanying ornamentation accent the verticality that characterizes the style.

The quoins at the corners of the structure reflect the masonry work of Italian Renaissance styles. The window hoods are handsomely executed and the bay colonettes are turned in an unusual design.

The Johnston House, unlike the Heilbron House in Sacramento, represents a rather earlier and somewhat simpler Italianate type. The form of the building is not as sculptural as later Italianate/Second Empire combinations. The composition is essentially frontal, the earlier symmetry of Greek Revival styling altered by the slanted bay, and not yet reflective of the freedom of composition and combination of forms to be seen in Second Empire and later Queen Anne styles.

The design seems little affected by its rural environment, retaining its formality and rich ornamentation in spite of its country setting. The carefully planned front garden and roadway that announces the front entrance of the house, enhances this formality and the stately appearance of the house. The lush landscaping and mature plant remnants of the garden's earlier days, surround the house and complete its strong 19th century imagery.

Rosebud Ranch is significant as a remnant of a 19th century river ranch complex. It was essentially a self sufficient entity with its own orchard, farm land, and products, and a large dairy herd. At the height of its productivity, Rosebud Ranch comprised 1200 acres, with crops of fruit, grain, and vegetables, and a dairy herd of 100 Jersey cows whose butter commanded a higher price than that of any other brand.

A few of the early ranch buildings reflecting these past uses still remain, and help to convey the original concept of the farm and its 19th centruy self-sufficiency and character. The water tower, the smokehouse and the barn are the principal farm complex remnants.

The main house at Rosebud Ranch was built by a notable California pioneer, William Johnston. Johnston, a native of Pittsburgh, Pennsylvania, came to California in 1349 to seek his fortune in the gold fields. A year in the El Dorado mines netted him enough money to purchase the river side land where he built Rosebud Ranch.

Johnston's success as an agriculturist brought him principal state offices in the Grange, as well as national Grange delegacy, and the presidency of the Grange's Cooperative Business Association.

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Johnston also helped to organize the People's Savings Bank of Sacramento and held the office of both director and vice president. A prominent Republican, he was elected to State office, first as a member of the Assembly, and then as state senator, serving as Senate pro tem in 1880.

Johnston was also a member of the State Board of Equalization and a Director of the Christian College of Santa Rosa.

After Johnston's death in 1905, the home continued to be occupied by Johnston family members for four more generations.

Yet another individual of note associated with the house is the nationally prominent artist, Wayne Thiebaud. Thiebaud first came to national attention as an artist in the 1960's. On the basis of his subject matter, namely mass-produced food on counters and shelves, Thiebaud was identified strongly with the Pop Art movement of that era. His later figure paintings and the subsequent development of realism make it clear that his allegiances lie with realism rather than Pop Art.

Born in Mesa, Arizona, in 1920, Thiebaud came into the artist profession through commercial activities. Before concentrating on easel painting, he was first a cartoonist, sign painter, then an art director in advertising. He was over thirty years old before he had a one-man show.

He has been a Professor of Art at the University of California at Davis for a number of years, and one of a group of notable new Northern California artists who have achieved national recognition in recent years, essentially as exponents of a west coast 'realism' movement which may have been generated, and certainly was encouraged by, Bay Area painter David Park. Thiebaud's paintings hang in the Museum of Modern Art, the Metropolitan Museum of Art, the Library of Congress, the Fogg Art Museum, the Whitney Museum of American Art, and the Chicago Art Institute.

His prime concern, like that on Andy Warhol and Jasper Johns, has been for perceptual analysis of known quantities. There is in Thiebaud's paintings a seemingly inappropriate veneration for objects of little importance, while figures take on the appearance of objects without heirarchy of focus. Wayne Thiebaud's artistic contribution has been to make us reassess how we normally view the world.

9. Major Bibliographical References

see continuation sheet

10. Geographical Data

Acreage of nominated property 3.79 acres

Quadrangle name Clarksburg, CA

Quadrangle scale 1:24000

UMT References

	Zone	Easting	Northing
A	10	621980	4249420
B			
C			
D			
E			
F			
G			
H			

Verbal boundary description and justification

see continuation sheet

List all states and counties for properties overlapping state or county boundaries

state	code	county	code
state	code	county	code

11. Form Prepared By

name/title Paula Boghosian

organization Historic Environment Consultants date April 3, 1979

street & number 2306 J Street telephone (916) 446-2447

city or town Sacramento state California

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

___ national ___ state X local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the Heritage Conservation and Recreation Service.

State Historic Preservation Officer signature

title date 7/31/79

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I hereby certify that this property is included in the National Register

date

Keeper of the National Register

Attest: date

Chief of Registration

GPO 938-835

C-102412

C-102412

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CONTINUATION SHEET 7 ITEM NUMBER 10 PAGE 1

Recorded in Book 30 of Surveys, at page 8,
Beginning at a one-inch iron pipe marking the Southeast corner of Block Q as said Block is shown and so designated on the "Amended Plat of Hood."

STATE OF CALIFORNIA — THE RESOURCES AGENCY PETE WILSON, Governor

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO 94296-0001
(916) 653-6624
FAX: (916) 653-9824

January 19, 1993

Mr. Bob McCabe
1809 19th Street
SACRAMENTO CA 95814

Dear Bob:

In regards to your recent inquiry concerning the status of the Rosebud Ranch National Register property, please be assured that this Office has not taken action to delist the property from the National Register.

The Office of Historic Preservtion generally initiates action to remove a property from the National Register following loss of integrity, or in the event the property is destroyed. The OHP will not request such action from the Keeper of the National Register in the case of the Rosebud Ranch.

Sincerely,

Steade Craigo, AIA, Acting
State Historic Preservation Officer

EXHIBIT 5

This exhibit is excluded from the record in accordance with the hearing officers' oral ruling on 9/26/2018.

Project Coordinator: Carol Goldstein with Project Assistant Shivsharan Someshwar

Sponsoring Institution: UCLA Graduate School of Architecture and Urban Planning

Project Team: Amy Anderson, Jim Dobbs, Maria Gomez, Jessica Lehrbaum, John McDermon, Sylvia Patsaouras, Timothy Sales, Jennifer Schroder and Sophie Spalding

Owner: City of Los Angeles

CATEGORY 6 — CRAFTSMANSHIP

Rose Bud Rancho

Recently purchased by new owners, this 1868 Italianate was partially destroyed by fire in 1989. Their decision to retain as much of the original historic fabric as possible was pursued with an impressive zeal. Burned structural members were retained and encapsulated; burned sections of original doors and woodwork were repaired with inlays and regrained; shattered marble fireplaces were pieced together like jigsaw puzzles. This project showed great dedication and skills on the part of all involved.

Architect: Bob McCabe, Architect

Owner: John and Cheryl Cox

Contractor: Frichette Construction, Peter E. Frichette

CALIFORNIA PRESERVATION FOUNDATION

TENTH ANNUAL DESIGN AWARDS
February 22, 1993

with the generous support of

H.J. DEGENKOLB ASSOCIATES, ENGINEERS

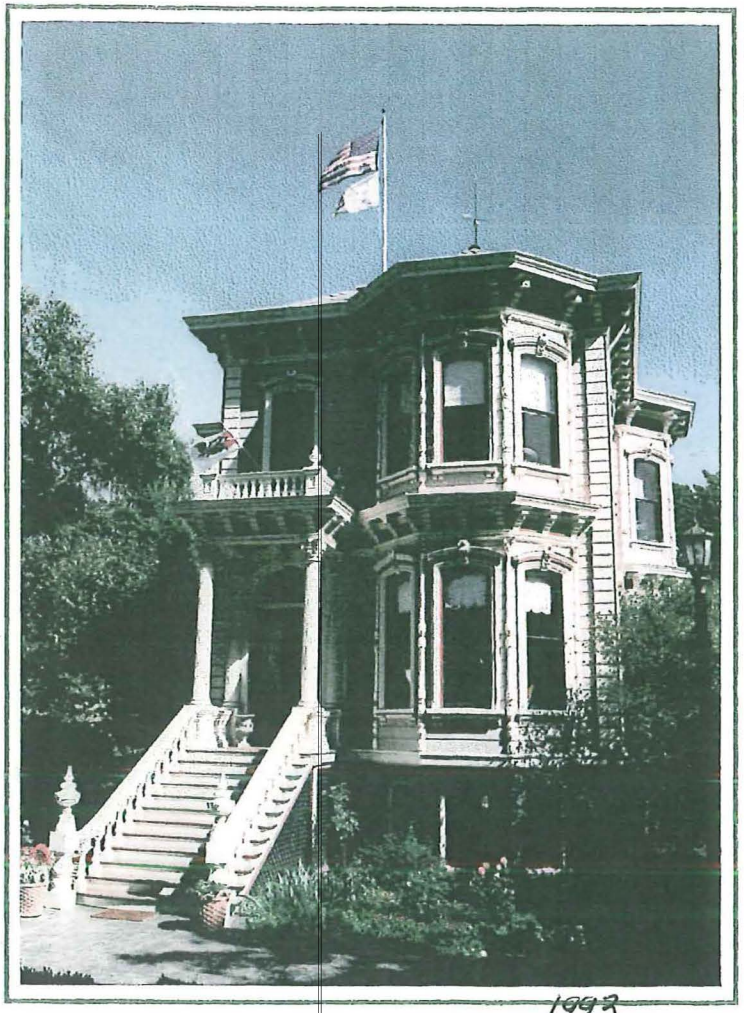
1979

ROSEBUD FARM

Rather like a city lady, born and bred, who came to the country and decided to stay, Rosebud Farm typifies not only the type of architecture so popular in San Francisco during the late nineteenth century, but its influence on architectural adaptation by smaller, thriving communities, as well.

Built prior to 1870 for State Senator William Johnson, it boasts the classic lines of the Italianate High Victorian – Corinthian columns, angled bay windows, and arched door and window frames. Rosebud Farm was designed by architect Nathaniel Goodell, who also constructed plans for the Governor's Mansion in Sacramento. The grounds were designed by the landscape architect who was also responsible for Golden Gate Park in San Francisco.

Originally, the house held five imported European marble fireplaces and several marble sinks. In 1918, it was remodeled to add space, extending the rear of the house by adding on two bedrooms and enclosing the back porch. The Johnson family retained ownership until 1967, when the home was sold to artist Wayne Thiebauld. The present owners, members of the Sacramento Old City Association, are working to recapture the original atmosphere of the design.

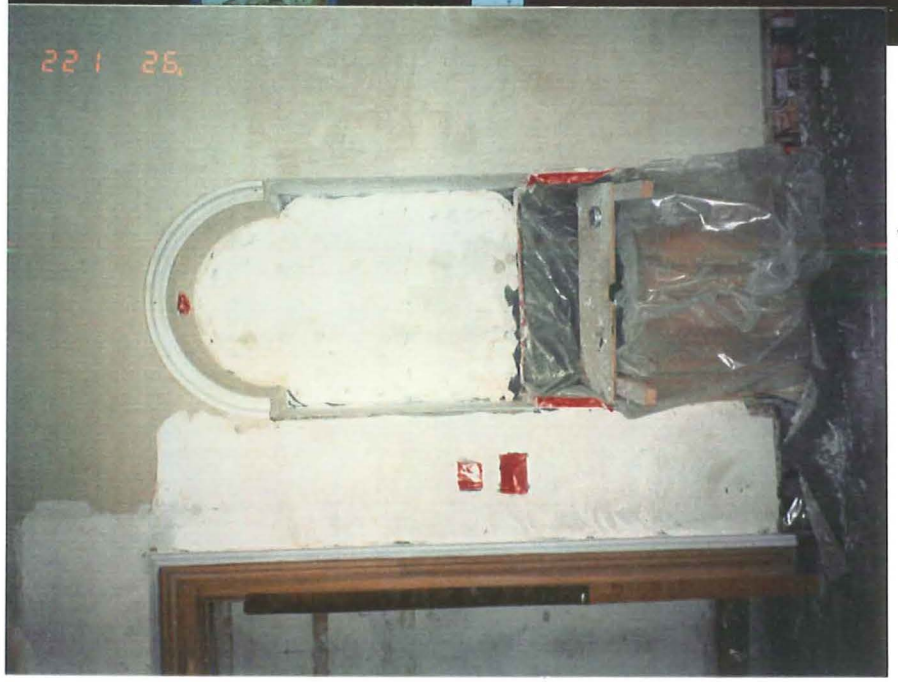


1993

← after Restoration

Damage to Master Bedroom

Cold water Sink & alcove

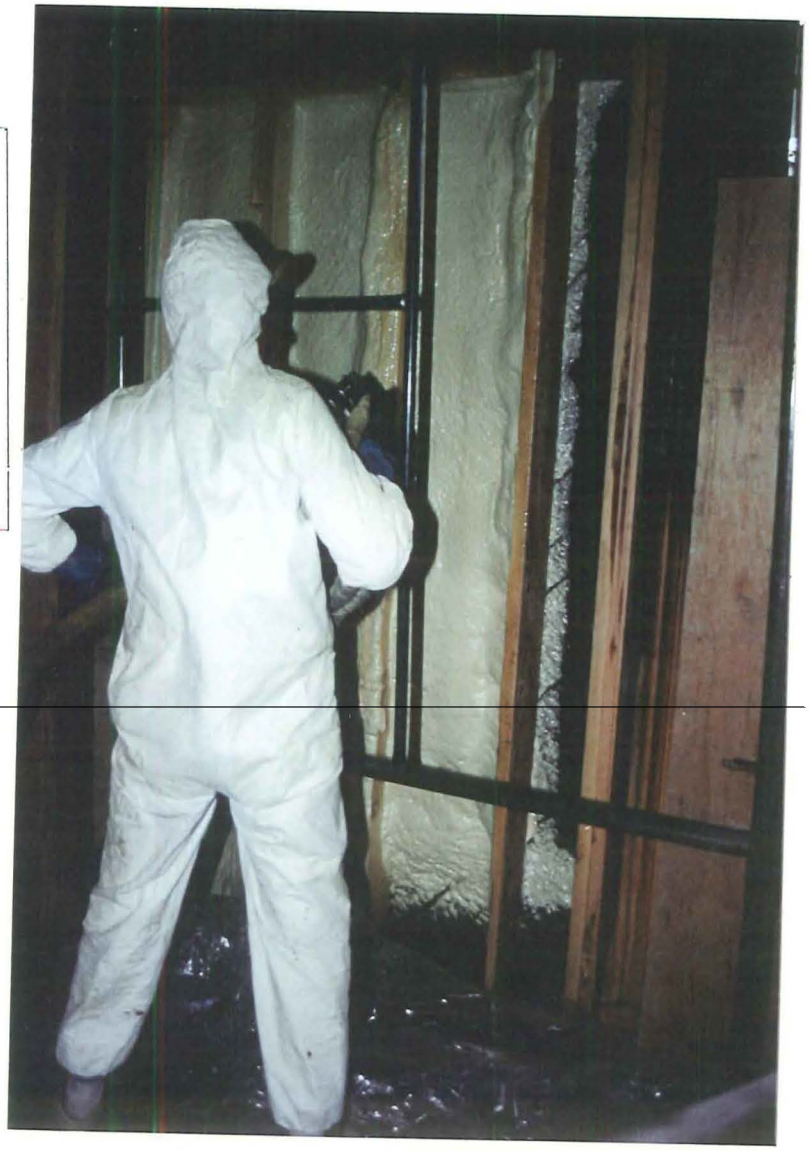


During Restoration – see new plaster "married" into original

Front Parlor
Restoration
Kept lath - plaster over
attached washers to save
existing plaster

Required
here

LAND-309



County approved this foam encapsulation which saved much of the exterior siding

EXHIBIT 6

OSHA R. MESERVE (SBN 204240)
PATRICK M. SOLURI (SBN 210036)
SOLURI MESERVE, A LAW CORPORATION
510 8th Street
Sacramento, California 95814
Telephone: (916) 4557300
Facsimile: (916) 2447300
Email: osha@semlawyers.com
patrick@semlawyers.com

Attorneys for Local Agencies of the North Delta

BEFORE THE

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

HEARING IN THE MATTER OF CALIFORNIA DEPARTMENT OF WATER RESOURCES AND UNITED STATES BUREAU OF RECLAMATION REQUEST FOR A CHANGE IN POINT OF DIVERSION FOR CALIFORNIA WATER FIX	**TESTIMONY OF DAVID ROBINSON – REVISED** **LOCAL AGENCIES OF THE NORTH DELTA**

I. INTRODUCTION

I am a volunteer firefighter with the city of Walnut Grove, which is a completely volunteer department. I have volunteered with Walnut Grove Fire Department since 1997 and have been the Assistant Chief since 2001. I also spent twenty-three years with the Stockton, California Fire Department. As an emergency responder in the Delta, I am familiar with the particular needs of the region as they relate to emergency services, transportation access, and the community in general. I am a fifth generation Delta resident. My ancestors helped reclaim the land where I currently reside in 1872.

The purpose of this testimony is to provide information on the ways the Delta Tunnels (aka "California WaterFix") would affect Delta communities like Walnut Grove. Specifically, I will discuss how the construction of the project would impede the abilities and responsibilities of emergency responders.

The Delta's intricate geography of levee roads around islands makes the area susceptible to vehicle traffic problems. (See LAND-123 [map indicating road segments of concern].) More importantly, traffic issues compound the severity of emergency situations by lengthening response time for firefighters, Emergency Medical Technicians ("EMT"), and other necessary services. With years of planned construction, years of increased traffic, and years of project related accidents, Delta communities would surely suffer harm. Emergency response times would increase, access to roadside accidents would become more difficult, and emergency responders would be spread thin. Put plainly, the Delta Tunnels are detrimental to the health and safety of Delta communities.

II. THE PETITIONED PROJECT WOULD BE CONTRARY TO THE PUBLIC INTEREST

A. Traffic from the Project Would Interfere with the Provision of Emergency Services

The Walnut Grove Fire Department is an all-volunteer department with about 25 members. We have about 15 members that respond on a regular basis. This response depends on the day of the week and time of day. Frequently, during the workday, because of regular day jobs, we have a very skeleton crew and typically only have a few members

available to respond. Many do not live or work in Walnut Grove, but in the area surrounding the town. When an emergency arises, the volunteers have to put down what they are doing and drive to the station to respond with the appropriate equipment. There are also times on weekends where we have very few people to respond.

When a roadside incident occurs in the Delta, traveling to the location is difficult for emergency responders. Those involved will like be unable to clear the road, given the lack of shoulders on levee roads to pull off on. The vehicles behind the accident would not be able to pull around the incident because of the narrow width of the roads and oncoming traffic. If the incident blocks both lanes, oncoming traffic would be stuck as well. This creates a gridlock scenario with little room and considerable delays for emergency responders.

The more difficult scenario is when one lane is blocked and traffic is going around the incident. When responders arrive, the oncoming traffic has stopped and cannot back up or pull over, blocking our access to the emergency. Then we have to park and walk to the incident. Some emergencies, like extrication, require heavy equipment. In those scenarios, traffic can prevent our access to the accident with the necessary equipment. In the past, we have had to simply wait for sufficient room to open up, a challenging scenario for any emergency responder.

Accidents also affect the surrounding areas more severely in the Delta. With limited routes available to reach any given destination, drivers using navigation technology can only be rerouted along so many other roads. Drivers may be rerouted in a way that further inhibits emergency responders' ability to access the incident. It also can affect a volunteer firefighter's ability to respond to the station to operate the equipment in the first place.

Additionally, the Delta is an agricultural community and has been since its settlement. Farmers have to move equipment from one field to another. This equipment is frequently wide and slow. Combine that with the impatience of your average commuter, a very dangerous scenario arises. This is just another example of how traffic issues particular to the Delta have been overlooked when planning this project.

As a volunteer department, there are only so many fire fighters on staff at a given time. We have other careers, responsibilities, and commitments. At mid-day, there may be only two or three volunteers on duty. If an accident occurs requiring more volunteers to respond, the gridlock can even prevent them from reaching the station, and their equipment, in the first place.

Construction of the Delta Tunnels would only make these issues worse. The proposed project requires considerable truck usage, hauling heavy materials and waste back and forth. According to the FEIR/S, there would be a peak of 2,427 construction workers on the job. (SWRCB, FEIR/S, p.16-277.) With large increases in traffic on the roads in places like Walnut Grove, from both workers and trucks hauling materials, it would be more difficult for the department to access accidents. Along with the increased traffic, the trucks hauling material would make accidents, spills, and other emergencies more likely.

The project would drastically increase daily traffic throughout Delta communities like Walnut Grove. The table below is a representative sample of areas analyzed in the FEIR/S that I am most concerned about.

Road Segments of Particular Concern

Road	ID number	Current Hourly Volume Range	Baseline plus Background Growth plus Project Hourly Volume Range
Paintersville Bridge	CT 28	75 to 150	703 to 786
State Route 160, between Paintersville Bridge and Walnut Grove Bridge	CT 29	78 to 128	720 to 786
State Route 160, between Walnut Grove Bridge and A Street in Isleton	CT 30	173 to 465	793 to 1,085

Road	ID number	Current Hourly Volume Range	Baseline plus Background Growth plus Project Hourly Volume Range
State Route 160, between A Street in Isleton and State Route 12	CT 31	193 to 378	813 to 998
River Road between the Paintersville Bridge and Twin Cities Road	SC 09	85 to 134	132 to 183
River Road between Twin Cities Road and Walnut Grove Bridge	SC 10	223 to 365	642 to 793
River Road between Walnut Grove Bridge and Sacramento County Line	SC 11	175 to 332	418 to 587
Isleton Road	SC 12	61 to 283	106 to 328
Twin Cities Road between River Road and I-5	SC 06	130 to 248	543 to 668

(SWRCB-102, FEIR/S, pp.19-208 to 19-217 [Table 19-25]; see also LAND-123.)

According to the FEIR/S, State Route 160 ~~and River Road~~ through Walnut Grove has a level of service threshold of 1,740 vehicles. (See SWRCB-102, FEIR/S, p. 19-11~~21~~.) In my experience, this may be possible on straight sections of the road, with no impediments, and all drivers going the exact same speed. With drivers going different speeds, sharp turns, stop signs, farm equipment, driveways, and bridges, 1,740 drivers per hour is unrealistic. With the current traffic volume, it is already dangerous, especially with how impatient many drivers can be.

Currently, when there are problems in other areas, traffic through Walnut Grove increases tremendously. For instance, when there are problems on Highway 12, traffic can be

rerouted through Walnut Grove, to I-5 and back to Highway 12. This is can be a 30-mile detour leading to very impatient drivers. When it happens, Highway 160 would be backed up from Walnut Grove for 2 to 3 miles. Isleton Road then gets backed up and in-town traffic is backed up to the Georgiana Slough Bridge. This already happens with current traffic volumes. When this happens, it is impossible to respond to the station and extremely difficult to even get a fire engine or truck on the levee roads to respond to an incident.

The other sections of road referenced in the table above suffer from the same set of problems. Twin Cities Road, including the bridge over Snodgrass Slough, is incredibly narrow and has areas where visibility becomes an issue. Isleton Road is often very busy, with a lot of curves and intersections that already cause issues for larger vehicles.

These segments of road only highlight some of the worst conditions in the Delta. Because of the increase in traffic, roadside accidents would be more dangerous and difficult to respond to. The roads in Delta communities are narrow, often with only one lane going each direction. (See LAND-190 [photograph of Paintersville Bridge].) Many places do not have adequate shoulders to pull off the road in case of an emergency. (See LAND-190 [photograph of Isleton Road].) Drivers in accidents already lack sufficient space to pull over, leading to traffic back-ups. Often traffic flow in the opposite lane is impacted by an accident because of the space constraints. All of this would result in serious delays in emergency service response times for roadside accidents. People's lives and safety would be impacted in a negative way.

B. Local First Responders Would Not Be Able to Meet the Added Emergency Service Demands of the Project

The project would also thin out already short-handed emergency response resources. As mentioned above, the Walnut Grove Fire Department is an all-volunteer department. Additionally, Clarksburg, Courtland and Isleton all have full volunteer departments, while River Delta and Rio Vista rely heavily on volunteers to supplement a small full-time staff. Each department relies on mutual aid from their neighbors, so service area is not strictly defined by the department map. The Delta Tunnels project would strain these limited emergency resources throughout Delta communities, not just in Walnut Grove.

The project construction would take over 13 years to complete. (LAND-207 [MWD Fact Sheet].) That is years of truck traffic carrying potentially hazardous materials on difficult roads and years of more construction-related accidents. Departments like Walnut Grove would see increases in emergencies requiring a response without an increase in available resources. This would take away from our ability to serve Delta Communities and negatively impact the public.

Unfortunately, the FEIR/S does not include adequate details about how the project would increase the demand on emergency services. (SWRCB-102, FEIR/S, pp. 20-188 to 20-190 [discussion of Impact UT-1, increased demand on emergency responders].) It is not clear to me why this impact is not considered significant, when the strain of resources on Walnut Grove and other Delta towns would put emergency responders in difficult situations. I believe the project's effects on public service demand was underestimated in the FEIR/S and believe that the SWRCB should consider this problem in its permitting decision.

C. Mitigation for Project Is Inadequate to Protect the Public Interest

I am also concerned that the mitigation measures in the FEIR/S are inadequate and lack the necessary specificity. To address the traffic impacts, the project offers mitigation measures intended to limit traffic congestion. The proponents say they want to coordinate with local emergency response agencies to develop Traffic Management Plans ("TMP"). (SWRCB-102, FEIR/S, p. 19-218.) Some of the measures do not effectively address the effects on Delta communities, such as the use of detours and bridges as alternative access routes. (SWRCB-102, FEIR/S, p. 19-219.) The nature of roadways in the Delta limit detour options, and the bridges of the Delta would already be suffering from increased traffic volume. Other measures do not offer enough specificity to indicate their effectiveness, such as the procedures for roadside emergencies. (SWRCB-102, FEIR/S, 19-220 ["Provisions that direct haulers are to pull over in the event of an emergency. If an emergency vehicle is approaching on a narrow two-way roadway, specify measures to ensure that appropriate maneuvers would be conducted by the construction vehicles to allow continual access for the emergency vehicles at the time of an emergency"].)

I am also concerned that the bulk of mitigation resources would go to areas other than communities like Walnut Grove. According to the FEIR/S analysis, Walnut Grove would not be significantly impacted by increased traffic. (SWRCB-102, FEIR/S, pp. 19-210 to 19-215 [Table 19-25 projected traffic volumes of area surrounding Walnut Grove].) Mitigation Agreements with affected agencies would focus on areas significantly impacted according to the FEIR/S impact analysis. (SWRCB-102, FEIR/S, p. 19-221 [discussion of exceeding level of service thresholds].) The only traffic mitigation measures that would be implemented in Walnut Grove is a maximum limit on hourly truck trips. (SWRCB-102, FEIR/S, 19-57 to 19-61 [Table 19-9 mitigation actions by road segment].) The project does not call for a TMP or a Mitigation Agreement for the areas I am concerned about. On the face of the FEIR/S, it looks as if areas that would undoubtedly suffer from traffic related issues would not receive the funding or attention necessary to protect Delta communities. The inclusion of clearer mitigation measures specifically to alleviate traffic in Delta communities would go a long way improving the TMPs and protecting the public interest.

Even where the mitigation measures may help lessen the impacts on Delta communities, a caveat comes attached with them. With respect to all mitigation measures, the FEIR/S states that the proponents "are not solely responsible for the timing, nature, or complete funding of required improvements." (SWRCB-102, FEIR/S, p. 19-357.) I worry about who will be responsible for taking care of these improvements, if not the project proponents.

I am concerned not only with the traffic but the safety of the workers at the site. I have read the safety precautions that would be taken at the site to minimize dangers and accidents but there is no plan of what to do if there is a hazardous materials-related or industrial accident. I am aware of Courtland Fire Department's capabilities and ours in Walnut Grove and am concerned for the safety of the workers. You may have two understaffed departments with minimal training responding to a fire station and to the incident. Currently there are no local responders with Hazardous Material, Heavy Rescue, or Confined Space rescue training. Responses wouldn't be timely, and many times would be with inadequate resources. This would not only be a serious problem for the health and safety of the individuals involved in the

incident but would take the few volunteers available at that time out of town, leaving their respective communities unprotected.

As for the safety issues caused by the project construction, mitigation measures are focused largely on containing onsite hazards. (SWRCB-102, FEIR/S p. 20-120 [discussion of hazardous materials management plans and other preventative measures].) While these measures would be absolutely necessary, I think there are ways for the proponents to more directly assist emergency responders in the Delta. First, the FEIR/S already anticipates providing 24-hour onsite security in construction zones in an effort to alleviate demand on law enforcement. (SWRCB-102, FEIR/S, p. 20-119.) The project should also hire its own emergency responders such as fire fighters and EMT as local agencies won't have the capacity to respond to industrial accidents of the magnitude of a project like this. Requiring the project to provide its own emergency responders would preserve our limited resources for Delta residents.

Second, if the project must rely on local emergency responders, proponents should provide the funding for local emergency responders to expand their capabilities. Walnut Grove currently has good frontline fire apparatus, but if that equipment goes out for mechanical reasons, our capabilities are severely downgraded. Also, the equipment we carry such as turnouts, fire clothing, self-contained breathing apparatuses ("SCBA") and extrication equipment is barely up to standard. This is very expensive equipment and hard for a volunteer department with a budget like ours to replace. If the proponents are expecting agencies like Walnut Grove Fire Department to effectively respond to emergencies, the proponents ought to invest in those agencies. Only with more resources could we be better equipped to deal with the slew of project related issues and better protect public safety.

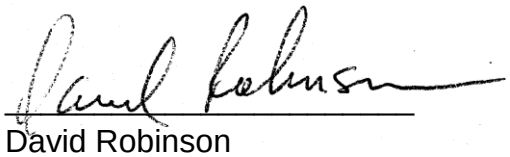
IV. CONCLUSION

In conclusion, as a resident and volunteer firefighter in the Delta, I do not believe the project would be in the public interest. The human costs that construction would bring are not worth the supposed benefits. There are serious issues of public safety that have not been properly acknowledged. As proposed, the plan does not do enough to alleviate my concerns

that the traffic and construction would strain emergency responders' resources and interfere with our ability to serve the Delta.

Because of all of the complications it would cause, I believe approval of the project by the State Water Board would harm the public interest.

Executed on the 30th day of November, 2017, at Sacramento, California.



David Robinson

REFERENCES

Metropolitan Water District of Southern California Infrastructure Fact Sheet (2017). [LAND-207]

Photographs of Local Roads and Bridges. [LAND-190]

Roadway Segments of Concern (from SWRCB 102, Figure 19-2a). [LAND-123]