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15	BEFORE THE		
16	CALIFORNIA STATE WATER RESOURCES CONTROL BOARD		
17	HEARING IN THE MATTER OF		
	CALIFORNIA DEPARTMENT OF WATER	WRITTEN TESTIMONY OF Brandon	
18		Nakanawa	
	RESOURCES AND UNITED STATES BUREAU OF RECLAMATION	Nakagawa	
19	RESOURCES AND UNITED STATES BUREAU OF RECLAMATION REQUEST FOR A CHANGE IN POINT OF	Nakagawa (Part 2 Rebuttal)	
18 19 20	RESOURCES AND UNITED STATES BUREAU OF RECLAMATION		
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I am the Water Resources Coordinator for San Joaquin County. I received a Bachelor's of Science Degree in Civil Engineering from the University of the Pacific (UOP) in 2002, with a minor in chemistry. I am a Registered Civil Engineer in the State of California: License # C 67010. I have been employed by the San Joaquin County Department of Public Works since January, 2001. My qualifications are further described in SJC-70 and SJC-71, previously submitted in this hearing.

A large part of my job now is focused on compliance with the Sustainable Groundwater Management Act (SGMA), which was passed by the State Legislature and signed by the Governor in 2014. As the Water Resources Coordinator for the County of San Joaquin, I am concerned about the effects of the WaterFix Twin Tunnels on well owners' ability to access groundwater along the Tunnel alignment, as well as the Delta Tunnels' effects on groundwater resources more generally.

In my Part 1 testimony, I discussed how Petitioners had failed to identify the legal users and uses of groundwater within the vicinity of what was then the proposed Tunnels alignment. (SJC-70, 4:24.) I explained how this deficiency prevented Petitioners from determining whether there would be injury from the proposed project to such users and uses of groundwater. (SJC-70, p. 4:27.) I suggested methods Petitioners could have used to locate this information. (SJC-70, p. 5:1.) I concluded by noting that without such information, Petitioners could not determine the impact of the proposed project on legal users and uses of groundwater. (SJC-70, p. 7:9.) In order to show the feasibility of finding the relevant information, my office independently collected data regarding groundwater wells in the vicinity of the project from the Department of Water Resources, analyzed that data, and prepared figures showing where wells were located in relation to the project. (See SJC-70, pp. 5-7, SJC-72 [well spreadsheet], SJC-73, SJC-74 and SJC-75 [well maps].)

This Part 2 testimony highlights how the issues I discussed in Part 1 related to legal users and uses of water remain, particularly in light of the new information presented in the

Administrative Draft Supplemental Environmental Impact Report/Statement (ADSEIR/S). (SWRCB-113.) The ADSEIR/S contains no additional identification of existing wells in proximity to the Tunnels alignment, nor any analysis of the impacts to well owners. This Part 2 Testimony comports with the July 2, 2018 Ruling, which states that "parties may contradict the data, analysis or conclusions in the administrative draft EIR/S Supplement by presenting their own evidence." (P. 2.) I also note that the Tunnels alignment described in the ADEIR/S differs in character from the project described in the Petition submitted to this Board in 2015. (SWRCB-1, SWRCB-2.) Therefore, it does not appear that the public has received an adequate analysis of the potential impacts to well owners due to the currently petitioned project and that the changes may adversely affect water users and members of the public other than those affected by the project described in the Petition and the ADEIR/S.

The ADSEIR/S claims that the proposed project's refinements to the footprint of the water conveyance facilities will cause the tunnels to "avoid crossing under the community and to avoid affecting municipal water wells." (SWRCB-113, p. 3-7:24; see also SJC-328 [CWF March 2018 Design Refinements, stating the realignment "[r]educes potential impacts to the town of Hood".) Yet the ADSEIR/S fails to provide any information supporting this determination, or to address whether the newly proposed tunnel alignments and the project changes would result in injury to different legal uses and users of water. (See SJC-331.) Moreover, no analysis has been presented of the hydrogeologic effects caused by the Tunnels on wells in the area surrounding the newly aligned proposed tunnels and associated facilities. (See SJC-331.) The ADSEIR's failure to provide this information and analysis, combined with the compressed timeframe for Protestants to respond to this new information in Rebuttal, effectively forecloses any possibility of performing even the most basic threshold analyses of effects on groundwater resources in the project area caused by the project changes.

The ADSEIR/S provides no information to support a determination that the proposed tunnels alignment would not result in injury to legal users of water, or that there would not be unreasonable effects on fish and wildlife, the public interest, and public trust resources. In my Part 1 Rebuttal testimony, I observed that maps with well locations are crucial for determining whether any legal users or uses of water would be affected by the tunnels alignment. (SJC-70, p. 7:9.) The ADSEIR/S does not include any analysis of the currently proposed project's impacts on groundwater, nor does it include any maps or figures addressing groundwater resources. (See e.g., SWRCB-113, p. 7-1 and Mapbook; SJC-330.)

I would again like to highlight the necessity of incorporating maps showing the locations of wells into groundwater impact analyses. In order to determine whether legal users and uses of water could be affected by the tunnel's alignment, Petitioners would need to know who the legal users are, and where they are located. Petitioners failed to make this determination in Part 1 (see, e.g., Hearing Transcript, August 5, 2016, pp. 90-91), and it does not appear Petitioners have done anything to address this oversight in Part2.

I attempted to decipher Petitioners' reasoning for concluding that the project changes described in the ADSEIR/S would have beneficial effects (SWRCB-113, p. 3-7), or no effects, on groundwater resources (SWRCB-113, p. 7-1), but without any analysis or maps based on actual conditions, I was left to speculate. This is highly problematic and, in my view, unacceptable, because the new Tunnels alignment may be in close proximity to wells other than those affected prior to the new alignment (see SWRCB-113, Figure 3-1), and the Tunnels would be at a depth similar to that of the wells. (See LAND-35, p. 3:22 [Tootle noting that wells and the tunnels are at similar depths]; see also LAND-58, LAND-59.) If, as intimated in the ADSEIR/S, the changed Tunnels alignment would alleviate impacts to the wells in Hood (SWRCB-113, p. 3-7), that begs the question of what other impacts occur as a result of changing the footprint.

Without analysis and maps, there is no way for Petitioners, or me, to analyze these effects. This surprised me because one would ordinarily (and reasonably) expect to find a map displaying locations of potentially affected wells in this type of situation, especially given my prior testimony pointing out the same deficiency, as well as the ready availability of such data. (See SJC-70, p. 7:9, SJC-72, SJC-73, SJC-74.)

Another concern raised by the changes is that the proposed re-alignment puts the Tunnels closer to the Stone Lakes National Wildlife Refuge (Refuge) than was the case with the previously approved project alignment. (See SWRCB-113, Figure 3-1, M3-4: Sheets 1 and 2; see also SJC-329 [ADSEIR/S Figures].) Moving the Tunnels closer to the Refuge may negatively impact Stone Lake since the Tunnels may obstruct groundwater flows in the area. (LAND-35, p. 2:9 [Tootle explaining how the tunnel may impede the flow of groundwater]; see also SJC-223 [Lambie explaining how Sacramento River surface water discharges to groundwater]; SJC-227 [conceptual groundwater model].) As shown in SJC-330 (Refuge Well Map), South Stone Lake is very close to the proposed new alignment, and the Refuge also operates a well in that same area for wildlife enhancement purposes. Obstructions from the Tunnels may lead to reduced water availability for South Stone Lakes and nearby wells. (LAND-35, p. 3:24 [Tootle describing the Tunnels' potential effects on water supply and quality].) Similar to the issue with injury to legal users of water, additional analysis would be necessary to make any determination that water supplies for these important wildlife resources for would not be affected by moving the Tunnels closer.

The ADSEIR/S also includes changes in the footprint of the locations for disposal of muck from the Tunnels. (SWRCB-113, Figures 3-1 and 3-2; see also SJC-329.) Yet there is no analysis of how these new muck locations relate to groundwater wells, irrigation systems, drainage systems or water diversions, nor the safe containment of muck and any associated dewatering activities which may threaten water quality. (See e.g., LAND-58, LAND-59, LAND-60, SJC-73, SJC-74, SJC-75.) It is my understanding that all beneficial water uses and

users are supposed to be protected if the Petition is granted, yet Petitioners have provided no information regarding these issues in light of their proposed project changes.

I was also unable to find any information in the ADSEIR/S regarding the location of borrow pits, though the Incidental Take Permit (ITP) states that Petitioners will place approximately 2 million cubic yards of "borrow fill" at each intake site. (SWRCB-107, p. 17.) In total, Petitioners will require approximately 21 million cubic yards of "borrow fill." (SWRCB-107, p. 44.) Petitioners' proposed borrow pits raise serious and unanswered concerns about their effect on groundwater and other Public Trust resources. Petitioners, however, do not explain where the material will be collected from, nor do they provide maps showing the location(s). (See SWRCB-113, Figure 3-1; see also SJC-329.) The borrow pits may adversely impact both legal users of water and wildlife, for instance by disturbing existing wells or habitat. Without and disclosed locations of the borrow pits, one can only speculate about the likelihood and scope of those impacts.

Furthermore, in my opinion the ADSEIR/S fails to describe certain project components that appear to be contemplated by the project that would injure legal uses and users or water, and also affect wildlife, public interest and Public Trust resources. For instance, pertinent project documents indicate that in order to preserve flood control capacity, bulbouts may need to be constructed across the river from each of the three intakes. (See LAND-226 [wetland resources delineation for area across from proposed Intake 5]; see also LAND-121, LAND-65, DWR-212.) The Draft EIR/S also indicated that the new intake facilities would be designed and constructed to a minimum 200-year level of performance, without specifying what work would be required across the river to preserve such capacity. (SWRCB-3, RDEIR/SDEIS, Appendix E – Supplemental Information for U.S. Army Corps of Engineers, pp. E-25 to E-26.)

Yet on cross examination, DWR's sole engineering witness, Mr. Bednarski, denied that work would be required across the river from the proposed new intakes:

MS. MESERVE: .... In order to maintain flood control capacity, given the extension into the river, is it possible you would need to move the opposite levee to the west in order to maintain that capacity?

WITNESS BEDNARSKI: I don't believe that moving the levee on the west side is part of the project. In fact, I'm sure it's not.

(Hearing Transcript, March 5, 2018, pp. 155-156.) The question remains, as to why the Petitioners would include areas across the river in their Army Corps application (i.e., on the west side of the Sacramento River) if those areas were not targeted for any changes. (See LAND-226, DWR application to USACE, p. 53; see also LAND 121.) On this point, I note, also, that DWR conducted environmental surveys in June 2018 in the area across from proposed Intake 2. (See SJC-332 [letter to landowner, Mark Wilson, and map on p. 2 showing environmental surveys on the Mr. Wilson's parcel marked with a "3"].)

Mr. Bednarski's response to the bulbout question also ignores information in the FEIR/S, whereby additional flood risk analysis would be prepared in conjunction with the section 408 permitting process. (SWRCB-102, Appendix 6A, p. 6A-43 to 6A-44 [later hydraulic analysis "will analyze changes in velocity, water surface elevation, flowage distribution, scour, sedimentation, and any up- or downstream effects as a result of constructing and operating the new water conveyance facilities, including the three new intake facilities and Head of Old River Barrier"].) Constructing bulbouts or setting back levees would injure water users across the river, convert agricultural land, and require moving the levee roads.

There are several agricultural diversions across from the proposed Tunnels intakes that would be injured by any changes to the west side of the Sacramento River (see LAND-5 [Bogle Diversions], LAND-7 [Stillwater Orchards Diversions]; see also SWRCB-2, Attachment C [list of water rights in the Delta]), yet there has been no disclosure or analysis of the effect that bulbouts or other means to accommodate flood flows would have on these or other diversions. To the extent modifications to the levees on the west side of the river will be necessary to preserve flood capacity, those modifications should be disclosed in the ADSEIR/S or in other project documents so that injury to water users may be assessed as

part of this Hearing. (See, e.g., DWR-2 errata, slides 19-23 [identifying local water diversions under the footprint of the proposed new Delta Tunnels intakes].)

Finally, I also note that the Hearing Officers denied LAND et al.'s June 20, 2018, request for an extension for more time to review the ADSEIR/S, or staggering the timelines for submittal of testimony to ensure that Petitioners have sufficient time and information to address the new information in the ADSEIR/S. The very short timeframe from the date of the availability of the ADSEIR/S to the due date for Rebuttal, given my other responsibilities, provided insufficient time to fully review and respond to the information in the ADSEIR/S. It is my understanding, however, that in the context of this Petition for Change in Point of Diversion the Petitioners, not the Protestants, bear the burden of providing sufficient information to show that the currently proposed Tunnels and associated facilities and disturbances will not injure legal users or have unreasonable effects on fish and wildlife, the public interest and Public Trust resources. Based on the information I reviewed in preparing this testimony, that burden has not been met.

Dated: July 10, 2018

Brandon Nakagawa