

Central Valley Regional Water Quality Control Board

12 December 2025 Board Hearing

Responses to Written Comments Regarding a Proposed Amendment to the Water Quality Control Plan for the Tulare Lake Basin to Remove the Municipal and Domestic Supply (MUN) and Agricultural Supply (AGR) Beneficial Uses from Groundwater Within a Designated Horizontal and Vertical Area Within and Surrounding the Administrative Boundaries of the South Belridge, Monument Junction and Cymric Oil Fields in Kern County Near McKittrick, California

At a public hearing scheduled for 12 December 2025, the Central Valley Regional Water Quality Control Board (Board) will consider adoption of an amendment to the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan) to remove the Municipal and Domestic Supply (MUN) and Agricultural Supply (AGR) Beneficial Uses from groundwater within a designated horizontal and vertical area within and surrounding the administrative boundaries of the South Belridge, Monument Junction and Cymric Oil Fields in Kern County near the unincorporated community of McKittrick, California.

The Board provided interested parties the opportunity to review and submit written comments to the Board about the proposed Basin Plan Amendment (BPA), associated Draft Staff Report (dated September 2025 and including the Substitute Environmental Documents (SED) for the proposed BPA), and the associated External Scientific Peer Review initiated on 26 March 2025. This public comment period was conducted between 16 September 2025 to 31 October 2025. Five comment letters were received by the Board during this public comment period and Board staff developed responses to these comments. The comments from these letters and their corresponding Board staff responses are listed below.

Please note that Board staff paraphrased the public comments listed below for conciseness. For the original public comment letters with the full comments provided, please contact Board staff Jennifer Fuller at (916) 464-4646 or Jennifer.Fuller@waterboards.ca.gov.

Written comments were received by:

Jay Kroeker, Starrh Family Farms, Starrh & Starrh Cotton Growers LP (S&SCG)
(23 October 2025)

David Cory, Chair, Central Valley Salinity Coalition (CVSC)
(31 October 2025)

Christine Luther Zimmerman, Director, California Regulatory Affairs, Western States
Petroleum Association (WSPA)
(31 October 2025)

Rock Zierman, Chief Executive Officer, California Independent Petroleum Association
(CIPA)
(31 October 2025)

Jason Meadors, General Manager, Valley Water Management Company (VWMC);
includes VWMC Comment Letter, Appendices to the VWMC Comment Letter, a VWMC
redlined version of the proposed BPA with comments and suggested edits, and a
Declaration of Jason Meadors Before the Regional Water Quality Control Board for the
Central Valley Region (with Associated Exhibits) taken October 30, 2025 (Meadors
Decl.).
(31 October 2025)

Comments and Responses

Starrh & Starrh Cotton Growers (S&SCG)

Comments were received from Jay Kroeker, Starrh Family Farms, Starrh & Starrh
Cotton Growers on 23 October 2025.

S&SCG Comment No. 1:

S&SCG declared opposition to the BPA, as it is dismissive to the pursuit of protecting
the groundwater supply as a vital resource of Kern County.

S&SCG Comment No. 1 Response:

This comment is appreciated, and your opposition is noted and has been considered.
Central Valley Water Board staff ("Board staff") carefully reviewed both regional water
quality data and water quality data within the Project Area. Based on that review, much
of the Project Area will not be de-designated, and a portion of the de-designation zone
will be limited to de-designation of the MUN beneficial use only, and not of the AGR
beneficial use.

S&SCG Comment No. 2:

There is evidence of percolated oil field wastewater moving east toward good groundwater, due to oil field wastewater disposal activity being conducted in the area of the proposed BPA, upgradient from the Great Valley Basin.

S&SCG Comment No. 2 Response:

An existing groundwater monitoring well network is in place within the Project Area to monitor groundwater and potential impacts to waters with designated beneficial uses. All discharges of oil field produced wastewater to land require permitting by the Board through the adoption of Waste Discharge Requirements (WDRS). WDRs require compliance with water quality standards and ensure the protection of downgradient groundwater with MUN/AGR beneficial uses. The proposed BPA does not remove the requirement for any discharges within the proposed de-designation area to comply with the Basin Plan and WDRs, including protecting the designated beneficial uses of areas outside of the Revised Project Zone.

Central Valley Salinity Coalition (CVSC)

Comments were received from David Cory, Chair, Central Valley Salinity Coalition (CVSC) on 31 October 2025.

CVSC Comment No. 1:

CVSC expressed support for the proposed BPA, and overall appreciation for the Board's legacy of effort towards protecting groundwater and appropriately designating beneficial uses.

CVSC Comment No. 1 Response:

This comment is appreciated, and the support is noted.

CVSC Comment No. 2:

CVSC is concerned that the proposed BPA's AGR beneficial use threshold for groundwater of 5,000 mg/L Total Dissolved Solids (TDS) may serve as a precedent for future decision making and salinity management. This is a concern due to the need for flexibility for future salt management planning in the Central Valley, which will likely include salt sequestration in designated areas.

CVSC Comment No. 2 Response:

The Board evaluates each Basin Plan Amendment individually. For salinity, the Board must determine what levels do not support the use of groundwater for agriculture, which includes irrigation, livestock watering, and support of vegetation for range grazing. For this amendment, the limit of 5,000 mg/L TDS was found to be appropriate for irrigation and stock watering. The peer reviewers also supported the limit as appropriate and supported by scientific evidence. Use of the limit in this proposed BPA does not set a binding precedent for the limit's use in future groundwater beneficial use de-designation

Basin Plan Amendments. Should the Central Valley Salinity Alternatives for Long-Term Sustainability program (CV-SALTS), or other efforts, provide additional information regarding TDS limits, that information will be considered in any future Basin Plan Amendment that is considering de-designating the AGR beneficial use. Additionally, it is appropriate to take into consideration not only existing agricultural uses but the full range of potential agricultural uses that may be protected by AGR designation.

CVSC Comment No. 3:

CVSC expressed concern that the proposed BPA's AGR beneficial use threshold for groundwater of 5,000 mg/L TDS relies on information that has not been confirmed by a regulatory process. There is a lack of clarity and consistency in the literature regarding salinity levels that can be tolerated by various crops and livestock, and levels lower than 5,000 mg/L have been suggested by numerous sources. Additionally, ongoing efforts of CV-SALTS program include developing and establishing scientifically supported, data-driven targets for beneficial use protection in the near future. CVSC recommends that the proposed BPA AGR threshold value of 5,000 mg/L TDS not be used or cited as the threshold required for de-designating the AGR use.

CVSC Comment No. 3 Response:

The AGR beneficial use is defined as uses of water for farming, horticulture, or ranching, including but not limited to irrigation, livestock watering, and support of vegetation for range grazing. Under the Basin Plan when considering de-designating the AGR beneficial use, the Board must consider whether there is pollution that cannot reasonably be treated for agricultural uses. In the absence of an established salinity water quality objective for the protection of the AGR beneficial use, the Board relies upon scientific literature to provide salinity threshold concentrations that are generally considered to be protective of AGR. A review of the literature by Board staff found that a wide range of TDS concentrations (including up to 9,000 mg/L) could be a limit, depending on the use. 5,000 mg/L TDS is a reasonable threshold given current knowledge available for this specific area and is supported by the literature (NRC 1974). In no way should 5,000 mg/L TDS be considered applicable to other areas without review of literature and the specific geophysical characteristics, specific salinity constituents, suitability for agricultural uses, and climate of that area.

This conclusion was bolstered by the External Scientific Peer Review process; all three (out of four total) peer reviewers qualified to evaluate the scientific soundness and defensibility of Conclusion #4 regarding the applicability of the 5,000 mg/L TDS AGR threshold agreed that the use of 5,000 mg/L TDS was scientifically sound. Additionally, Livestock and Animal Science expert peer reviewer Dr. L Allen Pettey provided the following:

For specific species or production stages of livestock, the level of 5,000 mg/L TDS as a threshold is reasonable. Most non-ruminant species of livestock (poultry, swine) cannot

tolerate TDS higher than 5,000 mg/L TDS, yet grazing species (goats, cattle, sheep) have been known to maintain health and production when drinking from a water source with much higher TDS levels (up to 9,000 mg/L) for a relatively short period of time. The level of 5,000 mg/L TDS is reasonable as a threshold for long-term housing of all types of animals that may be reproducing, which would have extended consumption of water at these levels of TDS.

Please see Board staff's Response to the External Scientific Peer Review document (Appendix E to the Draft Staff Report for McKittrick Basin Plan Amendment – Response to External Peer Review Comments). As stated in Board staff Response to CVSC Comment No. 2, the Board considers each Basin Plan Amendment individually and may propose a different salinity threshold in a future Basin Plan Amendment if there is information that would support an alternative threshold.

CVSC Comment No. 4:

CVSC stated that the application of the 5,000 mg/L TDS threshold for the AGR beneficial use is not required to adopt or approve the proposed BPA. It is CVSC's understanding that there is no evidence of highly salt-tolerant cotton crops or other agricultural crops dependent on groundwater, cattle grazing, or stock watering occurring within the boundaries of the Project Area of the proposed BPA. CVSC further states that even assuming that the 5,000 mg/L threshold might be valid in some limited circumstances, those circumstances do not exist here. Therefore, CVSC urges the Board not to include potentially precedential findings which are not necessary to the proposed BPA, and to evaluate the Project Area of the proposed BPA for potential de-designation of applicable beneficial uses based on historical and current beneficial uses dependent on groundwater. CVSC further stated that using one set of TDS values is inappropriate for this proposed BPA and for future Basin Plan Amendments.

CVSC Comment No. 4 Response:

Regarding the comment of the proposed BPA including potential precedential findings, please see Board staff Response to CVSC Comment No. 2.

Regarding the statement that including the 5,000 mg/L threshold for the AGR beneficial use is not required to approve the proposed BPA, in order to de-designate a water body for the AGR beneficial use, a threshold is required to evaluate if the water quality of the water body has pollution that does not support the agricultural beneficial use under the Basin Plan criteria for de-designation of the AGR beneficial use. As discussed in Board staff Response to CVSC Comment No. 3, the Board must consider agricultural uses (as defined in the AGR beneficial use in the Basin Plan) when determining the appropriate salinity threshold for considering de-designation of the AGR beneficial use. This includes reasonable protection of potential AGR uses within this area. Information is not available indicating that stock watering or irrigation of salt tolerant crops (e.g., pistachios) is not a potential use of this groundwater. Therefore, these potential uses

have been considered in developing the threshold. That threshold is then applied to the waterbody in order to determine reasonable bounds for the de-designation area.

Western States Petroleum Association (WSPA)

Comments were received from Christine Luther Zimmerman, Director, California Regulatory Affairs, Western States Petroleum Association (WSPA) on 31 October 2025.

WSPA Comment No. 1:

WSPA expressed support for the proposed BPA, and overall appreciation for the Board's legacy of effort towards protecting groundwater and appropriately designating beneficial uses.

WSPA Comment No. 1 Response:

This comment is appreciated, and the support is noted.

WSPA Comment No. 2:

WSPA echoes CVSC's concern that the proposed BPA's AGR beneficial use threshold for groundwater of 5,000 mg/L TDS may serve as a precedent for future decision making and salinity management. This is a concern due to the need for flexibility for future salt management planning in the Central Valley, which will likely include salt sequestration in designated areas.

WSPA Comment No. 2 Response:

Regarding the comment of the proposed BPA including potential precedential findings, please see Board Response to CVSC Comment No. 2.

WSPA Comment No. 3:

WSPA echoes CVSC's concern, detailed in the CVSC Public Comment Letter, that the proposed BPA's AGR beneficial use threshold for groundwater of 5,000 mg/L TDS is unsupported by regulation or current research. Please see CVSC Comment No. 3 for further details.

WSPA Comment No. 3 Response:

Please see Board staff Response to CVSC Comment No. 3.

WSPA Comment No. 4:

WSPA echoes CVSC's statement that the application of the 5,000 mg/L TDS threshold for the AGR beneficial use is unnecessary to adopt the proposed BPA. Please see CVSC Comment No. 4 for further details.

WSPA Comment No. 4 Response:

Please see Board staff Response to CVSC Comment No. 4.

California Independent Petroleum Association (CIPA)

Comments were received from Rock Zierman, Chief Executive Officer, California Independent Petroleum Association (CIPA) on October 31, 2025.

CIPA Comment No. 1:

CIPA expressed support for the Board de-designating beneficial uses from groundwaters within the Basin Plan which clearly do not support the designated beneficial use, as is clearly the case in the proposed BPA.

CIPA Comment No. 1 Response:

This comment is appreciated, and the support is noted.

CIPA Comment No. 2:

CIPA urged the Board to be consistent in its approach for de-designation between this McKittrick proposed BPA and a de-designation proposed by CIPA, the area of which completely encompasses this proposed BPA. CIPA stated that this includes the evaluation of factors such as, the presence of boron, in addition to total dissolved solids, when considering the AGR beneficial use. CIPA stated that this also includes extending the vertical extent of this McKittrick proposed BPA to the base of the Tulare.

CIPA Comment No. 2 Response:

The Board evaluates each Basin Plan Amendment individually. Consideration for the proposed BPA was limited to TDS, in part, because of the strict time constraints imposed by the Writ of Mandate in the case of *Valley Water Management v. California Regional Water Quality Control Board, Central Valley Region* (Kern County Superior Court Case No. BCV-19-101750 or “Writ”). Boron and other constituents that could affect the AGR beneficial use have not been utilized in prior de-designation Basin Plan Amendments and will require further analysis, literature review, and peer review to determine the appropriate thresholds. Future Basin Plan Amendments, for example the CIPA BPA that is currently in development, may propose including boron or other constituents provided there is sufficient technical and scientific analysis to support an appropriate threshold. If there is the necessary support for an appropriate threshold for other contaminants, the Board will consider de-designations for the AGR beneficial use for those contaminants in addition to TDS.

In addition, the Tulare Formation was evaluated for this BPA. Board staff found that there was insufficient data available within the Project Area to fully evaluate the full vertical extent of the Tulare Formation for de-designation. The Tulare Formation would be considered in future BPAs, such as the CIPA BPA, for de-designation where additional data to support de-designation may be available.

Valley Water Management Company (VWMC)

Comments were received from Jason Meadors, General Manager, Valley Water Management Company (VWMC) on October 31, 2025. These comments included a VWMC Comment Letter, Appendices to the VWMC Comment Letter, a VWMC redlined version of the proposed BPA with comments and suggested edits, and a Declaration of Jason Meadors Before the Regional Water Quality Control Board for the Central Valley Region (with Associated Exhibits) (taken October 30, 2025). VWMC's comments also include comments on the beneficial use designations in the Basin Plan, prior enforcement actions against VWMC, Proposition 65, litigation between VWMC and the Board, and costs of compliance with Valley Water's discharge permits. The Board appreciates VWMC's comments, however they are outside the scope of the proposed BPA and are not included in this Response to Comments.

VWMC Comment No. 1:

VWMC expressed concern regarding the narrow scope of the proposed BPA and the continuing costs of compliance with unnecessary requirements to protect non-existent uses related to its McKittrick 1 District Facilities.

VWMC Comment No. 1 Response:

Board staff completed an evaluation of the Project Area using available water quality and land use information. The result of that evaluation is the proposed BPA described in the report, which will change the beneficial use designations for approximately six square miles of land. Had the available water quality data shown that a larger portion of the Project Area (laterally or vertically) met the criteria for de-designation of a beneficial use, the proposed area for de-designation would have changed to reflect the appropriate area of de-designation.

In addition, VWMC is required to submit monitoring reports to comply with Monitoring and Reporting Program No. R5-2018-0808 (MRP) for the McKittrick1-1 Facility (Facility). Monitoring to comply with the MRP includes sampling of groundwater. This appears to be the source of the cost of compliance subject to this comment. The monitoring data is used to characterize the plume sourced from the Facility, which is moving east and will reach groundwater that is beyond the Revised Project Area, potentially posing a threat to groundwater with beneficial uses. Without the data generated by compliance with the MRP, the plume cannot be characterized and the threat to groundwater east of the Facility cannot be assessed. Board staff is currently evaluating a request to reduce the required monitoring under the MRP to reduce the costs of compliance while continuing to protect water quality.

VWMC Comment No. 2:

VWMC submitted, in addition to its comment letter, a redlined version of the proposed BPA that includes VWMC's comments and suggested edits.

VWMC Comment No. 2 Response:

Board staff appreciated the additional comments from VWMC from the redline version of the proposed BPA with VWMC comments and suggested edits. Board staff will consider these comments and suggested edits.

VWMC Comment No. 3:

VWMC stated that CIPA has proposed a de-designation Basin Plan Amendment to the Board and submitted a Revised Basin Plan Amendment Technical Report (Technical Report) to the Board on July 31, 2024 to support this. VWMC further stated that this Technical Report covers nearly the same area covered by the currently proposed McKittrick BPA. VWMC also stated that data presented in this Technical Report suggests no reasonable MUN or AGR beneficial uses of groundwater are present within the proposed McKittrick BPA Project Area, as no potable drinking water resources or agricultural use of groundwater in the Project Area have been identified. VWMC additionally stated that the Technical Report includes that “Groundwater occurs in disconnected isolated locations scattered between oil-bearing zones and is poor quality with high total dissolved solids (TDS) and boron concentrations.” VWMC further stated that the Basin Plan Amendment proposed by CIPA proposes that the vertical extent of de-designation to be from the ground surface to the base of the Tulare Formation, and that the Technical Report confirms that “the Tulare Formation groundwater is not used for drinking water or agricultural water within the Project Area because of elevated levels of TDS, hydrocarbons, boron, and other compounds potentially harmful to human, plant, and animal health.” VWMC also stated that Figure 4-25b in the CIPA Technical Report shows that nearly the entire proposed McKittrick BPA Project Area for the McKittrick Facilities shows high TDS above 3,000 mg/L, and part of the proposed McKittrick BPA Project Area lies in the Tulare Formation Exemption Area. VWMC stated that this information must be reviewed and incorporated into the analysis for the proposed McKittrick BPA.

VWMC Comment No. 3 Response:

Please see Board staff Response to CIPA Comment No. 2 regarding constituents other than TDS not being evaluated for in the proposed BPA.

All of the water quality data points (i.e., monitoring wells) used in the CIPA Technical Report are a part of the data set considered for the BPA subject to this comment. The CIPA Technical Report does not include any new data points for the Project Area. For the McKittrick BPA, Board staff used the most recent data set available when evaluating the groundwater within the Project Area. Data evaluated and included in the Draft Staff Report include water quality data from monitoring wells, literature, and data from well logs in the region surrounding the Project Area (although the nearest available logs for wells situated in the alluvium or Upper Member of the Tulare Formation were several miles from the Project Area).

VWMC Comment No. 4:

VWMC stated that it should be noted that the BPA documents never call out Clean

Harbors as a hazardous waste facility and gloss over the neighboring oil fields, yet both of these areas warrant removal of MUN and AGR beneficial uses to avoid people thinking the water below these areas is drinkable or should/could be used for AGR uses. Good public policy demands this result.

VWMC Comment No. 4 Response:

This comment is appreciated. The Draft Staff Report was amended to reflect that Clean Harbors is a hazardous waste facility (Class I and II landfill). Board staff did evaluate groundwater beneath the Clean Harbors facility and found that some areas did meet the criteria for de-designation. Those areas are described in the Draft Staff Report.

Groundwater beneath the neighboring oil fields was not evaluated as those areas were outside of the Project Area and scope of this BPA. Those areas could be considered in future BPA proposals (i.e., a future proposed CIPA BPA).

VWMC Comment No. 5:

VWMC stated that the permit that both of the VWMC McKittrick Facilities are regulated by (Waste Discharge Requirements Permit, Resolution No. 69-199, adopted in 1969) stated that “usable ground waters in this area are confined to Little Santa Maria Valley and other small alluviated valleys in the Belgian Anticline Oil Field south of McKittrick and the area generally east of Buena Vista Slough some seven miles northeast of the disposal sumps.” VWMC also stated that as far back as 1969, the Board knew that usable groundwater in the area was limited, and that fact continues today.

VWMC Comment No. 5 Response:

This comment is appreciated and was taken into consideration.

VWMC Comment No. 6:

VWMC stated that chemical analysis of water from Starrh Farms’ Well No. WW-1 for a water sample collected in February 2008 showed high Total Dissolved Solids (TDS) concentration of 5,860 mg/L and a chloride concentration of 1,800 mg/L from other sources besides Valley Water. VWMC also stated that the other two wells within the proposed BPA Project Area (WW-3 and WW-4) are currently still inoperable and do not appear to have been used in the last 6 years (2020-2025).

VWMC Comment No. 6 Response:

This comment is appreciated. Board staff used all available water quality data from *within* the Project Area to determine if the water quality within the Project Area met the criteria for de-designation. Board staff evaluated the most current data set available at the time the Draft Staff Report was developed. One of the data points referenced in the Draft Staff Report is from well WW-3, which is a water supply well operated by Starrh Farms. WW-3, which is inside of the Project Area boundary, is a part of a series of water supply wells which includes WW-1 and WW-4. Not all wells in the series were included in the evaluation because they are situated outside of the Project Area boundary.

VWMC Comment No. 7:

VWMC stated that the Board issued new Monitoring and Reporting program requirements for the VWMC facilities in 2018 and 2019, which included installation of groundwater monitoring wells and sampling for parameters that the majority of sampling results were required to be compared to drinking water standards (for the MUN beneficial use) or for the agricultural supply (AGR) beneficial use. VWMC further stated that none of these parameters, except TDS, were analyzed during the de-designation evaluation for the proposed BPA.

VWMC Comment No. 7 Response:

Please see Board staff Response to CIPA Comment No. 2, regarding constituents other than TDS not being evaluated for the proposed BPA.

VWMC Comment No. 8:

VWMC stated that the costs of the Board Cease and Desist Order and Monitoring and Reporting Program requirements at the VWMC facilities in the proposed BPA Project Area since the Cease and Desist Order was adopted on June 7, 2019, has totaled approximately \$2.4 million, including legal, technical assistance, monitoring and reporting, and regulatory-related fees.

VWMC further stated that based on the ongoing costs of compliance with requirements related to the challenged MUN and AGR uses, Valley Water believes de-designation of the entire Project Area is warranted, particularly since the Board made findings as early as 2018 that “[g]roundwater underlying the [McKittrick 1&1-3] Facility may not support the MUN and AGR beneficial uses.”

VWMC Comment No. 8 Response:

Board staff used all available water quality data from within the Project Area to determine if the water quality met the criteria for de-designation, including the monitoring data submitted by VWMC in compliance with the MRP. Please also see Board staff Response to VWMC Comment No. 1. Board staff are concerned regarding the cost associated with regulatory requirements and are currently working with the permittee to refine and reduce monitoring costs.

VWMC Comments Regarding Concerns and Suggested Edits Specifically Regarding the Draft Staff Report of the Proposed BPA

VWMC Comment No. 9:

VWMC suggested numerous non-substantive editorial edits in the VWMC redline version of the Draft Staff Report for the proposed BPA.

VWMC Comment No. 9 Response:

Board staff considered these suggestions and accepted the revisions that were appropriate to accept.

VWMC Comment No. 10:

VWMC Comment Letter Comment A.1 and A.2 stated the definitions of AGR and MUN were not correct and suggested using the Basin Plan definitions. VWMC stated that the definitions of the AGR and MUN beneficial uses in the Draft Staff Report should be replaced with the Basin Plan definitions.

VWMC Comment No. 10 Response:

Board staff agrees and changed not only the AGR and MUN definitions, but the IND, PRO, and WILD definitions, to the Basin Plan definitions of these beneficial uses.

VWMC Comment No. 11:

VWMC Comment Letter Comment A.4 stated that the definition of ‘Project Zone’ of the proposed BPA should not be limited to the Alluvium and should be all depths below the Project Area. Currently, that definition is not tied to any area and is unreasonably limited to surface layers. In addition, VWMC also stated that CIPA is proposing to de-designate from the ground surface to the bottom of the Tulare Formation for MUN, so all information provided by CIPA in its 2024 Technical Report should be utilized here to justify the same result. VWMC urges the Board to modify the definition of ‘Project Zone’ for the proposed BPA to track the area vertically underlying the Project Area and not limit it to the Alluvium. VWMC also urges that that proposal can be included in the Proposed Revised Project Zone of the proposed BP as well.

VWMC Comment No. 11 Response:

Please see Board staff Responses to CIPA comment No. 2 and VWMC Comment No. 3 regarding the VWMC recommendation that the Board include the Tulare Formation in the vertical extent for the proposed de-designation zone of the proposed BPA. Please also see Appendix E to the Draft Staff Report for McKittrick Basin Plan Amendment – Response to External Peer Review Comments.

VWMC Comment No. 12:

VWMC Comment Letter Comment A.5 stated that the definitions of Revised Project Area and Revised Project Zone should say “Proposed” before the item as these are merely proposals until adopted. VWMC urges the Board to modify the titles for definitions of the Revised Project Area and the Revised Project Zone to the Proposed Revised Project Area and the Proposed Revised Project Zone.

VWMC Comment No. 12 Response:

Board staff added 'proposed' in the definitions of both the 'Revised Project Area' and 'Revised Project Zone'.

VWMC Comment No. 13

VWMC Comment Letter Comment A.6 stated that the definition of Starrh Farms may be inaccurate, and that according to the California Secretary of State's online files, other definitions may be "Starrh Family Farms, Inc." or "Starrh Enterprises, LLC" (See Search | California Secretary of State <https://bizfileonline.sos.ca.gov/search/business> and search for Starrh). VWMC urges the Board to contact Mr. Starrh and determine which name is the correct one to list in the proposed BPA.

VWMC Comment No. 13 Response:

Board staff used the LightBox Vision (formerly LandVision) property data software program to confirm that the correct full name of the Starrh Farms entity that is located in the Project Area of the proposed BPA is Starrh and Starrh Cotton Growers, Limited Partnership (LP). Additionally, this is defined in the Draft Staff Report.

VWMC Comment No. 14:

VWMC Comment Letter Comment A.7 stated that the definition of 'Water Boards' is incomplete and should include the State Water Resources Control Board. VWMC urges the Board to modify the definition of 'Water Boards' to include the State Water Resources Control Board.

VWMC Comment No. 14 Response:

Board staff agree and have implemented those revisions.

VWMC Comment No. 15:

VWMC Comment Letter Comments B.1-B.3 stated that the Executive Summary should include that the McKittrick 1 & 1-3 facility is currently not operational, the small population of McKittrick, and revisions to the extent of the various land uses described.

VWMC Comment No. 15 Response:

Board staff agree with most of the requested revisions and have implemented the appropriate changes. Board staff do not agree that there is no agricultural production within the Project Area. Google Earth imagery shows that there is a portion of the Project Area where orchards currently exist.

VWMC Comment No. 16:

VWMC Comment Letter Comment B.4 stated that, as with the rest of the Draft Staff Report, the references to and reliance upon the Sources of Drinking Water Policy (SWRCB Res. 88-63) are incorrect. VWMC stated OAL rejected Resolution 88-63 under the California APA (Gov. Code, §§ 11346–11346.8) by issuing Determination 8 on May 17, 1989, finding that Res. 88-63 was a "regulation" subject to the APA, and the State Board failed to comply with the APA in adoption of the resolution. On that basis, OAL

invalidated Res. 88-63, meaning that that Resolution cannot be lawfully applied by any agency and should not be cited for any authority under this BPA. (Gov. Code, § 11340.5(a).) VWMC urges the Board to remove references to the Sources of Drinking Water Policy (SWRCB Res. 88-63) and rely instead upon the Board's Resolution 89-098, which was the authority for the blanket MUN use designation in 1989 and is the authority for this proposed action.

VWMC Comment No. 16 Response:

Board staff disagree with this comment. State Water Resources Control Board (State Water Board) Resolution 88-63 was not overturned by OAL. While there was a disagreement between State Water Board and OAL whether Regional Water Quality Control Board Basin Plans and State Policies for water quality control were subject to the Administrative Procedure Act's (APA) rulemaking provisions, the matter was resolved by legislation enacted in 1992. The 1992 legislation explicitly exempts plans, policies and guidelines adopted or revised prior to that date from the APA's rulemaking provisions provided there were no legal challenges. There were no court actions challenging Resolution 88-63 and thus it was exempt from APA requirements. This was confirmed by the California Court of Appeals in *Cal. Ass'n of Sanitation Agencies et al. v. State Water Board*, (2012) 208 Cal.App.4th 1438, 1448 (hereafter, CASA).

VWMC Comment No. 17:

VWMC Comment Letter Comment B.5 stated that the Executive Summary does not label the Clean Harbors disposal site as a hazardous waste site, which is an accurate description. VWMC further stated that this appears to be a purposeful oversight by Board staff to presume that the groundwater beneath the site still has beneficial use. VWMC urges the Board to identify Clean Harbors in the text and maps as a hazardous waste disposal facility.

VWMC Comment No. 17 Response:

Board staff do not agree that because Clean Harbors is a hazardous waste disposal facility that the groundwater beneath that facility does not have beneficial uses – as stated in the Draft Staff Report, all groundwaters are designated in the Basin Plan for MUN and AGR unless specifically de-designated through a Basin Plan Amendment. Additionally, waste management units used at the Clean Harbors facility are regulated by WDRs and are lined, in part, to provide protection to underlying groundwater.

However, Board staff did add to the Draft Staff Report, and the associated Draft Staff Report Figures, that the disposal facility run by Clean Harbors, and located in the Project Area, is a hazardous waste facility.

VWMC Comment No. 18:

VWMC Comment Letter Comment B.6 stated that in the Executive Summary, the Board cites "the literature" and assigns the AGR use with a maximum total dissolved solids (TDS) value of 5,000 mg/L. The Board claims that, above this value, an AGR use cannot be supported. However, this value has been arbitrarily assigned by Board staff,

without any regulatory adoption of this value. As such, the use of this value constitutes an underground regulation. Valley Water and other stakeholders have previously commented on the Board's use of this 5,000 mg/L threshold in the past and were assured that this was not a precedential value that would be used elsewhere, but apparently those assurances were inaccurate. If the Board wishes to use 5,000 mg/L as a threshold for use for regulatory purposes, such as this or other de-designations, then the Board must adopt that value in a Basin Plan Amendment for use generally. (See also Comment Letter submitted by the Central Valley Salinity Coalition.)

VWMC further stated that the Ayers and Wescott report cited by the Board clearly states that all waters with a TDS value of 2,000 mg/L or greater are detrimental to most crops with one exception being for cotton, which is no longer grown in abundance in this area because of source water limitations. The Board must first determine the actual agricultural uses that constitute existing uses of groundwater in the Project Area of the proposed BPA but failed to do so. If certain AGR uses are not present, then they should not be utilized for a determination of the appropriate TDS value that would constitute pollution in this case to meet that de-designation criterion. For instance, the highest TDS values are assigned to cattle grazing, but the Draft Staff Report contains no evidence of cattle grazing or other livestock uses in the area. Moreover, any AGR uses in the Project Area do not rely on groundwater, but instead use regional, state, or federal sources of surface water. An analysis of the actual AGR uses in the area and their water source(s) was lacking from the Draft Staff Report, making it arbitrary and not based on sound facts or science.

VWMC urges the Board to determine any actual AGR uses in the Project Area of the Proposed BPA and then assign the appropriate threshold needed to protect that use. If no uses are located, then the threshold of 2,000 mg/L should be used as that is the protective value for all AGR uses. Above that value, protection is not guaranteed, and the water should not be designated as usable for AGR. Alternatively, the 3,000 mg/L TDS value used for MUN could be used for AGR to be consistent. The Draft Staff Report states the following in support: "The criteria are designed to be consistent with the Sources of Drinking Water Policy." (Section 1.1.2.)

VWMC Comment No. 18 Response:

Regarding the comment of the proposed BPA including potential precedential findings, please see Board staff Responses to CVSC Comment Nos. 2, 3, and 4. The Board's numeric threshold is not an underground regulation. As stated in the previous Board staff responses, each Basin Plan Amendment is reviewed independently and the salinity threshold is not designed to be a general rule. Rather, the threshold is based on scientific evidence and may be changed as further scientific analysis is completed to support an alternative threshold in a different regulatory action.

VWMC Comment No. 19:

VWMC Comment Letter Comment B.7 stated that the Board's use of TDS alone ignores other chemical constituents of concern that may render the AGR use infeasible. For

example, the entire Project area of the proposed BPA can be shown to have high levels of boron and potentially other constituents, which would prevent maintenance of an AGR use. (See VWMC Appendix 4.) The Board failed to undertake this important analysis.

VWMC urges that the Board must look not just to TDS, but to any constituent in local groundwater that could thwart the use of that water for AGR use. Unlike MUN, TDS is not listed as a separate de-designation criterion for AGR. Therefore, the Board cannot read this limitation into the Basin Plan and must look at all potential contaminants.

VWMC Comment No. 19 Response:

Please see Board staff Response to CIPA Comment No. 2, regarding constituents other than TDS not being evaluated for in the proposed BPA.

VWMC Comment No. 20:

VWMC Comment Letter Comment B.8 stated that Board staff note that the Revised Project Zone of the proposed BPA is only 6 square miles and vertically only includes the Alluvium. No mention is given to designating the Upper Tulare or any formations deeper. It should be noted that the main reason any water is found in the Alluvium in the Project Area of the proposed BPA is because it was percolated there by agriculture and by nearby oil and gas facilities. (See Peer Reviewer Dr. Kisekka's report on page 5 ["The project area reflects the potential impact of land management activities, such as the disposal of produced wastewater in unlined ponds dating back to the 1960s, with TDS concentrations that can range from 8,400 to 56,000 mg/L. Flood irrigation in the past might also have contributed to elevated TDS levels in the alluvium part of the aquifer."].) Absent these historic discharges, the Alluvium would be filled with air.

VWMC further stated that no mention is made of the fact that groundwater in the Alluvium is likely not considered an Underground Source of Drinking Water (USDW) under the federal Safe Drinking Water Act regulations.

VWMC urges the Board to modify the discussion and definition of Revised Project Zone of the proposed BPA to reflect these facts.

VWMC Comment No. 20 Response:

Please see Figures 1 through 3 presented in the Board Draft Staff Report. Board staff evaluated all available water quality data within the Project Area when determining which parts of the Project Area and Project Zone met the criteria for de-designation of MUN and AGR. In determining which formations could be de-designated, Board staff found that only seven total data points represented formations deeper than the alluvium. All of those data points are from monitoring wells situated in the Tulare Formation. There are no data points (e.g., monitoring wells) situated in formations deeper than the Tulare in the Project Area. Based on the available water quality data within the Project Area, Board staff determined that there is not enough data at this time to de-designate the Tulare Formation for either AGR or MUN.

Please see Board staff Responses to CIPA comment No. 2 and VWMC Comment Nos. 3 and 11, regarding the VWMC recommendation that the Board include the Tulare Formation in the vertical extent for the proposed de-designation zone of the proposed BPA.

Please also see the Draft Staff Report Section 1.1, Need for Proposed Amendment, and Section 2.1.1, Federal Regulations and Guidance for statements in the Draft Staff Report regarding portions of the groundwater in the Project Area not qualifying as an USDW under federal regulations.

VWMC Comment No. 21:

VWMC Comment Letter Comment C.1 stated that the proposed BPA language includes only the Board staff's recommended alternative and not the proposal to de-designate the entire Project Area and Project Zone as requested by VWMC. VWMC further stated that both alternatives must be presented to the Board for analysis and final determination.

VWMC Comment No. 21 Response:

This section identifies and describes the proposed language Board staff are recommending based on their analysis of the groundwater data. This does not preclude VWMC asking the Board to support another alternative or the Board from directing Board staff to revise the proposed BPA to be consistent with another alternative. The other alternatives are discussed in more detail in Section 4 of the Draft Staff Report. Board staff have considered de-designation of the VWMC's proposed area as part of developing the recommended alternative. Essentially, Board staff considered the entire area initially but could not identify factual basis and representative water quality data to de-designate the entire Project Area. The Revised Project Zone reflects the largest boundaries where factual basis demonstrates that MUN and/or AGR beneficial uses may be de-designated consistent with the Basin Plan criteria.

Please see Board staff Responses to CIPA comment No. 2 and VWMC Comment Nos. 3, 11, and 20, regarding the VWMC recommendation that the Board include the Tulare Formation in the vertical extent for the proposed de-designation zone of the proposed BPA.

VWMC Comment No. 22:

VWMC Comment Letter Comment D.1 stated that any area in the oil fields should be exempted from MUN and AGR beneficial uses as these areas do not support these uses, and that the Draft Staff Report should include a map with the oil fields and of areas where others are requesting de-designation (VWMC included these maps in VWMC Appendices 5 and 6).

VWMC Comment No. 22 Response:

Please see Board staff Response to VWMC Comment No. 4. The Basin Plan describes

the criteria the Board must utilize when considering a proposal for de-designation of the AGR and MUN beneficial uses. Those criteria are the only basis that the Board may rely upon to support de-designation of the AGR and MUN beneficial uses.

VWMC Comment No.23:

VWMC Comment Letter Comment D.2 stated that the Draft Staff Report states that only information provided by Valley Water, Clean Harbors, United States Geological Survey (USGS) and peer-reviewed sources were used to evaluate the groundwater, and that VWMC believes that the information used was too narrow and that all readily available information from CalGEM, well logs, CV-SALTS, other de-designation proposals by CIPA (see Meadors Decl., Exhibit 8, and all other relevant data should have been used.

VWMC additionally stated that only single data points were used, not long-term data or trends. VWMC urges the Board to review and consider all existing and readily available data instead of picking and choosing the data sets reviewed for the proposed BPA (compare Figures 2 and 3 with VWMC Appendix 4).

VWMC Comment No. 23 Response:

This comment is appreciated and was taken into consideration. Please see Board staff Response to VWMC Comment No. 3 regarding data and information sources.

VWMC Comment No. 24:

VWMC Comment Letter Comment D.3 stated that the Board is only using TDS as the criteria for de-designating AGR, and no mention is made of the fact that much of the groundwater in that area also has a high concentration of boron, which is detrimental to most crops at low concentration levels (>3-7 mg/l) (see VWMC Appendix 4). VWMC urges that the Board must look not just to TDS, but to any constituent in local groundwater that could thwart the use of that water for AGR use (see Report of Peer Reviewer Dr. Pettet pages 1-3.)

VWMC Comment No. 24 Response:

Please see Board staff Response to CIPA Comment No. 2 regarding constituents other than TDS not being evaluated for in the proposed BPA.

VWMC Comment No. 25:

VWMC Comment Letter Comment D.4 stated that the Board's determination that only "groundwater with greater than 5,000 mg/L TDS is eligible for de-designation under the pollution criterion" is too narrow and arbitrary, and that nowhere in the Basin Plan is the 5,000 mg/L value tied to the AGR use. VWMC additionally stated that the Board's previous use of this value was said to be not precedential, except that the Board continues to use this value. VWMC further stated that if the Board wants to use this value as a regulation, it must be adopted into the Basin Plan, and that for this proposed BPA, the Board must not rely on an underground regulation by using 5,000 mg/L for protection of AGR use.

VWMC Comment No. 25 Response:

Regarding the comment of the proposed BPA including potential precedential findings, please see Board staff Responses to CVSC Comment No. 2 and VWMC Comment No. 18.

VWMC Comment No. 26:

VWMC Comment Letter Comment D.5 stated the Board must cite Board Resolution 89-098 as its authority for this action, not the Sources of Drinking Water Policy (State Water Board Resolution 88-63), which was rejected under the APA as a regulation.

VWMC additionally recommends that the Board make the suggested changes to this text in the VWMC redline version of the proposed BPA, in Section 1 and its subsections.

VWMC Comment No. 26 Response:

Please see Board staff Response to VWMC Comment No. 16 regarding the validity and applicability of State Board Resolution 88-63, the State Board Sources of Drinking Water Policy.

VWMC Comment No.27:

VWMC Comment Letter Comment E.1 stated that in Section 1.1 of the Draft Staff Report, Table 1 shows that just 4 of the 72 parcels, or .0555%, represent land uses zoned agriculture, and those land uses do not rely on groundwater for any AGR or MUN use. VWMC further stated that besides IND use, no groundwater is used in the area for any beneficial use, and this was confirmed in the CIPA Technical Report that proposes de-designation in an area that overlap with the proposed BPA de-designation area, which should be reviewed by the Board as part of this regulatory proposal. The VWMC additionally stated that the Board must expressly recognize the fact that most land is vacant represents another data point, as if there were usable groundwater, there would likely be greater use of that groundwater put to this land; the fact is that water quality in this area is known to not be of high-quality and should not remain designated as if it is.

VWMC Comment No. 27 Response:

Please see Board Staff Response to VWMC Comment No. 3. Data points included in the CIPA Technical Report are included in the McKittrick BPA evaluation. In regard to land use within the Project Area, while most of land is not used for purposes outside of oil production and waste disposal, some of the land is used for agricultural production. Google Earth imagery shows that crops are present adjacent to the Clean Harbors facility and within the Project Area. As stated in Board staff Response to CVSC Comment No. 4, the numeric threshold must consider agricultural uses (as defined in the AGR beneficial use in the Basin Plan) when determining the appropriate salinity threshold for considering de-designation of the AGR beneficial use. This includes reasonable protection of potential AGR uses within this area and is not limited to existing land uses.

VWMC Comment No. 28:

VWMC Comment Letter Comment E.2 stated that the Board staff admits to the fact that groundwater in the entire Project Area of the proposed BPA is not likely to ever be used as a drinking water supply, yet they continue to focus only on the Alluvium and a reduced de-designation area due to a claimed lack of groundwater data. VWMC further stated that the Draft Staff Report does not include consideration of the use of oilfield electric logs for determining groundwater quality, which could provide additional data. VWMC additionally stated that it also appears that not all available data was used for the proposed BPA evaluation, such as CIPA's data (see Meadors Decl., Exhibit 8); not considering this additional data is arbitrary and lacks scientific rigor.

VWMC stated that when the MUN and AGR uses were designated, the Board failed to rely on *any* groundwater data to support that determination; therefore the Board should not use a substantially higher standard of proof for de-designation than it did for initial designation.

VWMC further stated that the proposal to limit de-designation to just the Alluvium was rejected by at least one Peer Reviewer; Dr. Gómez-Hernandez on page 2 of his review determined: "It is not enough to say that there are not enough samples in the Tulare Formation to justify its inclusion in the de-designated area", "the decision to exclude the Tulare Formation from the Revised Project Zone because the quality of the water in the formation cannot be assessed, given the small number of samples, is not defensible", and "I don't believe that the proposed basic plan amendment is based on sound scientific knowledge methods and practices...."

VWMC recommends that the Board must locate and use all available data and must recognize that the groundwater is not used because of low quality and quantity.

VWMC additionally stated that the Board improperly claimed that the wells used were in the Alluvium, when all are not. (See VWMC Appendices 1, 2, and 3.)

VWMC Comment No. 28 Response:

Please see Board staff Responses to VWMC Comment Nos. 3, 20 and 27.

The reasonableness of the blanket designation was upheld in *CASA*. As noted in *CASA*, any change in the beneficial use of a water body requires an amendment to the Basin Plan. (*CASA, supra*, at p. 1457, 1463). The Board must follow the criteria set forth in the Basin Plan when proposing to de-designate the MUN and AGR beneficial uses.

Please also see Draft Staff Report Appendix E – Response to External Peer Review Comments, Response to Comments #1 for the Board staff response to the peer reviewers' comments on the Alluvium.

VWMC Comment No. 29:

VWMC Comment Letter Comment E.3 stated that the Draft Staff Report acknowledges that “Portions of the groundwater in the Project Zone do not qualify as an Underground Source of Drinking Water (USDW) under the federal Safe Drinking Water Act.”. However, the Board provides no information on the location of these areas and fails to exclude them from MUN designation.

VWMC recommends that maps used for the proposed BPA need to identify non-USDW areas to show that these areas should not have been blanket designated in the first place in 1989 or could be exempted based on that criterion (demonstrating pollution) (see VWMC Appendix 5).

VWMC Comment No. 29 Response:

The de-designation criteria for the proposed BPA relies on criteria included in the Basin Plan, which is the regulatory mechanism for the jurisdiction of the Board. The USDW regulations utilize separate criteria with higher TDS limits and so were not used by the proposed BPA for determining de-designation purposes, nor was it included in the External Scientific Peer Review.

Please also see the Board Draft Staff Report Section 1.1, Need for Proposed Amendment, and Section 2.1.1, Federal Regulations and Guidance.

VWMC Comment No. 30:

VWMC Comment Letter Comment F.1 stated that the Board failed to cite Res. 89-098 (see Meadors Decl., Exhibit 2) that shows that the blanket MUN designation should have occurred only for groundwaters that then, in 1989, had no beneficial use designation. VWMC also stated that the Board stated in pleadings in the VWMC writ case: “in 1975, when the Board designated “Present and Potential Beneficial Uses” for the basin’s waters (AR7727-7732), it blanket-designated all groundwater in the basin as suitable for agricultural uses. (AR7730-7731).” (the Board’s Opening Appellate Brief (June 13, 2022) at 12-13). VWMC further stated that the Board therefore *admitted* that at least AGR (if not Industrial (IND)) beneficial uses pre-existed in 1989 in the Project Area of the proposed BPA when Board Resolution 89-098 was adopted; therefore, groundwater did not “currently have no beneficial use designation” that would have authorized blanket MUN designation under that Board Resolution.

VWMC recommends that the Board must determine if the Project Area for the proposed BPA possessed any beneficial use designation in 1989. If an AGR or IND use existed in 1989, then this area was not designated as MUN in 1989 and need not be de-designated now. VWMC further stated that the Basin Plan itself recognizes that “[e]xisting beneficial uses generally apply within the Detailed Analysis Unit (DAU),” but due to the size of the DAUs “the listed uses may not exist throughout the DAU.” (Basin Plan at 2-3 (emphasis added).)

VWMC Comment No. 30 Response:

As required by the State Water Board, the Board incorporated the Sources of Drinking Water Policy into the Basin Plan through Resolution 89-098. Any reference to “beneficial uses” in Resolution 89-098 are referring solely to the MUN beneficial use and are not linked to the AGR beneficial use. At that time, as explained in the Staff Report to Resolution 89-098, the Board was concerned only about the MUN beneficial use – including incorporating the Sources of Drinking Water Policy and an earlier Basin Plan Amendment that de-designated groundwaters under a contaminated site. Regardless of the language in Resolution 89-098, later amendments to the Basin Plan have amended the language further and the current Basin Plan states “all groundwaters are designated MUN (the use may be existing or potential) unless specifically exempted by the Regional Water Board and approved for exemption by the State Water Board.” (Basin Plan, p. 2-3.) Therefore, all groundwaters that have not been specifically de-designated in Table 2-3 of the Basin Plan have the MUN beneficial use. The groundwater underlying the Project Area is not listed in Table 2-3 and thus has the MUN beneficial use and must undergo a Basin Plan Amendment to remove the de-designation if appropriate under the criteria listed in the Basin Plan.

VWMC Comment No. 31:

VWMC Comment Letter Comment F.2 stated that the criteria included in Section 1.1.1 in the Draft Staff Report are from the Sources of Drinking Water Policy and should reference Board Resolution 89-098 instead.

VWMC Comment No. 31 Response:

Section 1.1.1 references both Basin Plan and the Sources of Drinking Water Policy for the criteria necessary to support de-designation of the MUN beneficial use and no further change is necessary.

VWMC Comment No. 32:

VWMC Comment Letter Comment G.1. stated that the Draft Staff Report states that “[t]o determine when there is pollution that meets the first criterion, the Board must determine the numeric value for the applicable constituent where it no longer supports agricultural use.” VWMC further stated that this determination need not be numeric, but could be a factual one showing that pollution was caused by historic marine sediments, or by industrial activities (oil production) in the area; there are three different criteria and this one can be determined without a number. VWMC additionally stated that pollution is “an alteration of the quality of the waters of the State by waste to a degree which unreasonably affects either of the following: (A) The waters for beneficial uses. (B) Facilities which serve these beneficial uses.” (Water Code §13050(*I*.) VWMC further stated that if the water is not of sufficient quality to be used or cannot be used for certain beneficial uses, then it could be determined to be constitute “pollution either by natural causes or by human activity,” which should be enough to de-designate under this criterion.

VWMC recommends that the Board must consider other evidence besides numeric water quality levels to determine whether the historic pollution cannot reasonably be treated for agricultural use using either Best Management Practices or best economically achievable treatment practices. VWMC further stated that the Board is merely looking at numbers, which is too narrow and arbitrary; unlike MUN, the AGR de-designation criteria do not include numeric thresholds for TDS or any other constituent, so they cannot be implied or presumed.

VWMC Comment No. 32 Response:

Please see Board staff Response to CIPA Comment No. 2, for a discussion of utilizing other constituents to support the de-designation of the AGR beneficial use.

Board staff disagree that a numeric threshold is not required to evaluate whether there is pollution that cannot be treated for agricultural use. For further explanation, please see Board staff Response to CVSC Comment No. 4.

VWMC Comment No. 33:

VWMC Comment Letter Comment G.2. stated that Board staff arbitrarily chose 5,000 mg/L TDS as the threshold to allow for AGR use, but this value makes no sense since most of the crops grown in the surrounding area cannot utilize water at or near that threshold and require substantially lower TDS levels. VWMC also stated that only cattle or cotton may be able to use water at or near that threshold, but Board staff provided no information demonstrating any cattle grazing or cotton growing in the Project Area of the proposed BPA. VWMC suggests that lower TDS levels of 2,000 -3,000 mg/L represent the threshold that should be used in setting the AGR de-designation level for the proposed BPA, not the high TDS threshold of 5,000 mg/L since in this area there is little or no cattle grazing and no crops grown with groundwater.

VWMC further stated that the 5,000 mg/L threshold used was based on a Canadian Council of Ministers for the Environment (CCME) guidance document (see Board Resolution R5-2017-0032 at 1, para. 7.); which is a foreign source from Canada, has not been demonstrated to be applicable to local conditions in Kern County. VWMC additionally stated that, importantly, the Board previously attempted to use extra-national requirements for regulatory purposes and was overturned by the State Water Board; in the *Vacaville* decision, the State Water Board concluded that Board erred in using a European Union ammonia value to implement the narrative taste and odor objective (see SWRCB Order No. 2002-0015 at 47-48).

VWMC additionally stated that furthermore, when researching this CCME value, it was discovered that the livestock value was set at 3,000 mg/L TDS (see Livestock Concentration at <https://ccme.ca/en/chemical/215>); therefore, the 5,000 mg/L value being used is not supported by this source. VWMC also stated that the Canadian

guidelines also state they “are developed for agricultural applications in irrigation to protect the most sensitive species and life stages of agricultural crops that may be exposed to toxic substances in irrigation water and for livestock water to provide recommended concentration limits on contaminants in livestock water above which possible harm to livestock may result” (<https://ccme.ca/en/current-activities/canadian-environmental-quality-guidelines>).

VWMC also stated that other research shows that levels below 3,000 mg/L TDS are usually satisfactory, but levels above this can cause adverse effects (see <https://grow.ifa.coop/cattle/water-is-essential-to-livestock-nutrition>); levels below 5,000 us/cm EC and 3,000 mg/L TDS have been deemed acceptable under Ayers and Westcot 1989, but above that is unacceptable and may cause death for poultry and can cause diarrhea in livestock. VWMC also stated that while higher salinity water may be tolerated, the Board should not endorse it with a designation as being usable for AGR use.

VWMC additionally stated that research funded by USDA shows that levels between 3,000 to 5,000 ppm are only marginally safe; livestock may be reluctant to drink; and it may reduce performance and affect health. VWMC states that the primary symptom of high salinity water for livestock is diarrhea, and if the TDS is high, cattle will be reluctant to drink, then drink a large amount at once; this can cause the animal to become very sick and potentially die. (<https://www.ars.usda.gov/ARSUserFiles/30300000/Research/WATERQUALITYMKP6-09.pdf>). VWMC stated that thus, the safe value, recommended in Canada and Nigeria and other countries’ research, is at or below 3,000 ppm or mg/L. VWMC recommends that the Board should use 2,000 or 3,000 mg/L TDS as the threshold for AGR use, and must not rely on the 5,000 mg/L TDS value, which is not a supportable or adopted regulatory value.

VWMC Comment No. 33 Response:

Please see Board staff Responses to CVSC Comment Nos. 2, 3 and 4.

VWMC Comment No. 34:

VWMC Comment Letter Comment G.3 stated that Board staff ignore all other constituents in local groundwater that might be harmful to cattle or crops; Board staff admit that they only looked at TDS and ignored all other constituents of concern concentrations - “Other constituents and water quality characteristics (i.e., boron) were not considered for this Basin Plan Amendment.” VWMC also stated that this action is arbitrary and ignores facts and science.

VWMC further states that the proposed BPA Peer Reviewer Dr. Pettey stated that “Other measurements of water quality (sulfates, nitrates, alkalinity) would also provide a means to assess the adequacy of a water source for livestock use but have not been

provided for review.” (See Peer Reviewer Dr. Pettey’s report at 1.) “Other water quality measurements (nitrate, sulfate, alkalinity) are potentially more important to livestock health and could also influence the suitability of a water source for livestock production purposes.” (*Id.* at 2-3 (emphasis added).) VWMC stated that Dr. Pettey went on to state that: “the data needed to fully assess the quality of the groundwater may be incomplete... Total Dissolvable Solids (TDS) is a common measurement of water quality used to determine its ability to support livestock animals, but there are further qualities (nitrates, sulfates, alkalinity) that can also further confirm the suitability of a water source to support livestock health and production.” (*Id.* at 3.). VWMC additionally stated that even the Board’s own Peer Reviewer thought the scope of constituents reviewed was too narrow.

VWMC recommends that the Board must consider other constituents besides TDS/EC and must look at other water quality measurements for nitrate, sulfate, alkalinity, boron, etc. to determine if any of these constituents would preclude AGR use (see VWMC Appendix 4 for boron data).

VWMC Comment No. 34 Response:

Please see Board staff Response to CIPA Comment No. 2.

VWMC Comment No. 35:

VWMC Comment Letter Comment G.4 stated that the evidence shows that AGR is not an existing use in the Project Area. the Kern County Subbasin Groundwater Sustainability Plan, dated August 2025.

(https://www.westsidedwa.org/files/061bb82a7/WDWA+GSA+Blue+Page+GSP+FINAL+AUG_2025.pdf) includes the Westside District Water Authority, which includes the Belridge Water Storage District. VWMC stated that in the GSP, they acknowledge that

in the Westside District Water Authority “[d]ue to poor groundwater quality, only in extremely dry years do landowners pump nominal amounts of groundwater, which requires treatment/blending before beneficial use.” VWMC further stated that this GSP further states that 98% of the water used in the Westside District Water Authority is surface water. VWMC additionally stated that an additional document found online from 2023

(https://www.usbr.gov/watersmart/weeg/docs/2023/BelridgeWaterStorageDistrict_508.pdf) explains that Belridge was trying to get a grant to line their canals because they did not want to recharge clean water into the salty groundwater; on Page 2, this document states: “Groundwater underlying the District is salty and unsuitable for irrigation.” VWMC stated that these documents provide evidence that local agriculture is not using groundwater for AGR purposes in the Project Area in the proposed BPA, and that the Board’s designation of any part of this groundwater as “suitable” for AGR is contrary to the evidence in the record.

VWMC Comment No. 35 Response:

Please see Board staff Responses to VWMC Comment Nos. 15 and 27. Please also see Board staff Response to VWMC Comment No. 28, for a discussion regarding the blanket designations of the beneficial uses. Additionally, please see Board staff Response to CVSC Comment No. 4, regarding the evaluation of potential agricultural uses even without current agricultural use.

VWMC Comment No. 36:

VWMC Comment Letter Comment H.1 stated that the Board fails to state that the Basin Plan did not delineate between underground layers of groundwater when it designated uses in 1994 or before; therefore, it should not be presumed that all aquifers were previously designated with MUN. VWMC further stated that now in the de-designation process, the Board is parsing out these levels with greater specificity, and the scrutiny should not be greater when de-designating than when designating. VWMC recommends that the Board should state the fact in Section 1.1.3 of the Draft Staff Report that the Basin Plan does not specifically differentiate between aquifers in beneficial use designations.

VWMC Comment No. 36 Response:

The Basin Plan states that all groundwaters are designated as MUN unless specifically de-designated in Table 2-2. Therefore, it is unnecessary for the Basin Plan to specify layers of groundwater.

VWMC Comment No. 37:

VWMC Comment Letter Comment H.2 stated the Draft Staff Report fails to recognize that the Basin Plan states that beneficial uses, even where designated, do not occur everywhere, and that the designation of MUN only means that the use is “suitable or potentially suitable.” VWMC also stated that the Draft Staff Report also fails to state that, unlike Basin Plans from other Regional Water Quality Control Boards, the Basin Plan does not recognize the difference between Existing and Potential or Intermittent uses; these designations would be helpful as potential uses need not be protected the same as existing uses. VWMC recommends that Board staff add text to Section 1.1.3 that states, like the Basin Plan, that beneficial uses do not occur everywhere.

VWMC Comment No. 37 Response:

The Basin Plan states that Figure 2-2 and Table 2-2 present the AGR, IND, PRO, REC-1, REC-2, and WILD beneficial uses of groundwater that existed as of 1993. In the next paragraph it says that existing beneficial uses generally apply within the listed Detailed Analysis Unit (DAU). Due to the size of the DAUs, however, the listed uses may not exist throughout the DAU. Therefore, the statement that listed uses may not exist throughout the DAU applies to the existing uses listed in Figure 2-2 and Table 2-2. Regardless of the fact that the uses may not be existing throughout the DAU, the Basin

Plan designates all groundwater as designated for MUN or AGR unless they are specifically de-designated.

VWMC Comment No. 38:

VWMC Comment Letter Comment I.1 stated that Section 1.2 of the Draft Staff Report cites to a TDS data point of 1,700 mg/L, but does not identify whether this was a single, anomalous result, or a steady state value. VWMC stated that this data point was for VWMC's monitoring well CYM-17N1 on January 10, 2022; all the other data for this well was above 14,000 mg/L. (Meadors Decl. at ¶ 38.) VWMC further stated that this datapoint apparently was a typographical error in the results table or a transcription error when transferring the sample results from the lab report. VWMC included an excerpt from the associated lab report on page of the VWMC Comment Letter.

VWMC additionally stated that even if the 1,700 data point cited reflected a real value, this single low value does not prove that this water is capable of producing a constant value below 3,000 mg/L, or that there is enough water to supply an average, sustained yield of 200 gallons of water per day. VWMC further stated that furthermore, the Basin Plan generally applies salinity standards as long-term (i.e., annual average) values. The Draft Staff Report does not contain enough information to conclude that a single low value should disqualify an entire portion of the Project Area of the proposed BPA from being de-designated. VWMC suggests that the Board should provide all data relied upon as well as all data reviewed, by well, by aquifer, and by year, to ensure data is not being cherry-picked to justify the preferred alternative.

VWMC Comment No. 38 Response:

The comment is referring to a statement within the Draft Staff Report which reads, "Available data shows that groundwater in the alluvium has TDS concentrations ranging from approximately 1,700 to 16,000 mg/L."

The "1,700 mg/L" value is reflective of a TDS concentration reported from a sample well owned by Clean Harbors (1,740 mg/L), not the well referenced in the VWMC comment letter (well CYM-17N1). In response to this comment, the Draft Staff Report was updated from 1,700 mg/L to 1,740 mg/L.

Additionally, when evaluating the data in the Project Area, Board staff relied on multiple data points when determining whether the groundwater met the criteria for de-designation. Board staff were not able to recommend de-designation of portions of the Project Area where there was insufficient data to demonstrate that the groundwater met the criteria for de-designation of the MUN and AGR beneficial uses.

Also please see Board staff Response to VWMC Comment No. 50 regarding the Board staff evaluation of the de-designation criteria of an aquifer producing less than 200 gallons of water per day.

VWMC Comment No. 39:

VWMC Comment Letter Comment J.1 stated that Board staff made a critical assumption that the Corcoran Clay Equivalent (CCE) clay is impermeable everywhere, and that groundwater below the CCE needs to be protected, even though geochemical analyses show a TDS higher than 3,000 mg/L in the Tulare Formation. VWMC additionally stated that this leads to Board staff only looking at sand/aquifers above the CCE for de-designation.

VWMC further stated that the Peer Reviewers for the proposed BPA also expressly disagreed with this assumption and determined that groundwater exceeding 3,000 and 5,000 mg/L TDS exist in the Tulare Formation (see Peer Review reports of Dr. Bellin and Dr. Gomez-Hernandez discussed below, and VWMC Appendices 1-4.) VWMC additionally stated that Peer Reviewer Dr. Bellin pointed out that “GeoTracker reports TDS concentrations in the range 11000 -18000 mg/l in the wells screened in the Upper Tulare formations. In the Lower Tulare formation, the TDS concentration is as large as about half of the concentration in the Upper Tulare formation...”. VWMC further stated that this Peer Reviewer statement shows that the data demonstrates that areas outside the revised zone are worthy of de-designation as well.

VWMC recommends that the Board should review and clarify this section to not assume total impermeability without facts to support that assumption.

VWMC Comment No. 39 Response:

Please see Board staff Response to the External Scientific Peer Review document (Appendix E to the Draft Staff Report for McKittrick Basin Plan Amendment – Response to External Peer Review Comments) regarding the evaluation of the impermeability of the CCE.

VWMC Comment No. 40:

VWMC Comment Letter Comment K.1 stated that the claim the Board staff makes in Section 1.2.2 of the Draft Staff Report that rainwater percolates from the Temblor Mountains eastward towards the Valley floor may be true to some extent, that this claim is not substantiated by any reference or data included or cited in the document. VWMC further stated that this rainwater percolation is obviously not substantial as no information was provided to demonstrate that rainwater diluted the groundwater to lower TDS levels. VWMC recommends that the Board staff make the minor suggested redlined changes to this section.

VWMC Comment No. 40 Response:

The redline/strikeout version from VWMC did not include any suggested changes to section 1.2.2. However, Board staff removed the last sentence from Section 1.2.2 in the Draft Staff Report in response to this comment.

VWMC Comment No. 41:

VWMC Comment Letter Comment L.1 stated that the Draft Staff Report includes the unsupported statement that “[w]here there is groundwater in the alluvium, the aquifer is naturally of a high quality (< 1,000 mg/L TDS).” VWMC further stated that no evidence is provided in the Draft Staff Report to support this statement for the Project Area for the proposed BPA. VWMC additionally stated that most water in the Alluvium is percolation from agriculture or oilfield produced water in the area.

Therefore, VWMC recommends that the Board provide evidence to support the above statement since in the antidegradation section, the Board states that none of the water in the Project Area of the proposed BPA is of high quality.

VWMC Comment No. 41 Response:

This section of the Draft Staff Report has been revised to reflect the low TDS as a general characteristic of the alluvium in the general area and not a specific characteristic of the alluvium within the Project Area. Additionally, Board staff added a reference to this paragraph in the Draft Staff Report to further support the data provided.

VWMC Comment No. 42:

VWMC Comment Letter Comment L.2 stated that Section 1.2.3 of the Draft Staff Report states that the “Tulare Formation, which underlies the CCE, can also contain an aquifer, but the natural quality is much lower (> 4,000 mg/L TDS),” yet the Board does not propose to de-designate any part of the Tulare Formation in this proposed BPA. VWMC additionally stated that CIPA has also proposed to de-designate this zone, so all information provided by CIPA should be incorporated into the record for this proposed BPA (see VWMC Exhibit 8).

VWMC recommends that the Board must include the Tulare Formation in the proposed Project Zone of the proposed BPA for de-designation.

VWMC Comment No. 42 Response:

Please see Board staff Response to VWMC Comment No. 20.

VWMC Comment No. 43:

VWMC Comment Letter Comment M.1 stated that the Board staff claim in Section 1.2.3.1 of the Draft Staff Report that insufficient groundwater information exists to de-designate the entire Tulare Formation in the Project Area that VWMC proposed for de-designation. VWMC further stated that this is consistent with Board staff’s broadbrush approach to this project when it is to their advantage; there will never be enough information to prove groundwater levels in every inch of the Project Area of the proposed BPA, but there is enough information to say that groundwater in the area has certain characteristics that would cause groundwater to not be utilized. VWMC additionally stated that Board staff appear to also be relying solely on USGS

interpretations as to aquifer delineation, which differs from other expert determinations (see VWMC Peer Review comment section below, and VWMC Appendix 1, 2, and 3).

VWMC additionally stated that the overriding fact that Tulare water is not being used in the area does not seem to be germane to Board staff; if groundwater in the area could be readily used for beneficial use, it would be. VWMC further stated that the fact is that water on the entire west side of Kern County is relatively low in quality and quantity and does not fully support either MUN or AGR use (Meadors Decl. at ¶ 40, and Meadors Decl., Exhibit 8).

VWMC also stated that Board staff are only using one of the four available criteria and must consider all of them.

VWMC recommends that the Board must include the Tulare Formation in the proposed Project Zone for de-designation, as evidence shows that this formation is not being used for MUN or AGR beneficial uses in the Project Area of the proposed BPA, due to low quality.

VWMC Comment No. 43 Response:

All criteria for de-designation were considered by Board staff. Board staff evaluated all available representative data and information that meet quality parameters within the Project Area and applied the criteria for de-designation that was most appropriate given the available data. In addition, Board staff must not only consider existing uses but also reasonable potential uses when evaluating for de-designation. An existing use cannot be de-designated, but if the waterbody is not being used and will not be used for that beneficial use, then water quality data can support de-designation of that beneficial use where appropriate. The proposed de-designation correctly considers whether there is existing reliance on these waters for MUN/AGR and the current quality/aquifer capacity in the evaluation of the Basin Plan criteria.

Please see Board staff Responses for CVSC Comment 4, CIPA Comment 2, and VWMC Comment Nos. 3, 11, 20, and 27.

VWMC Comment No. 44:

VWMC Comment Letter Comment N.1 stated that in Section 1.2.3.2 of the Draft Staff Report the Board failed to include information from VWMC's well survey or information from the Cease and Desist Order (CDO) hearing on McKittrick about local wells, such as WW-3 that cannot support AGR use without substantial blending with another water source; this information should be included in the record for this proposed BPA.

VWMC recommends that the Board must include all available information in its files related to groundwater use or lack thereof in the Project Area of the proposed BPA.

VWMC Comment No. 44 Response:

Please see Board staff Responses to VWMC Comment Nos. 3, 11, 20, and 27.

VWMC Comment No. 45:

VWMC Comment Letter Comment O.1 stated that the Board states in Section 1.2.4 of the Draft Staff Report that “a portion of the Project Area is used for agricultural production operated by Starrh Farms.” VWMC further stated that the text needs to acknowledge that Starrh Farms historically used surface water for this operation and only used groundwater in drought with substantial blending (Meadors Decl. at ¶ 11-13) for several years now (Meadors Decl. at ¶ 13). VWMC additionally stated that the orchards were removed prior to September 2023, according to Google Earth; therefore, no water – either surface or groundwater- is being used for AGR in the Project Area (*Id.*). VWMC also stated that additionally, the only agricultural areas in the Project Area are also planning to request, through the Westside Water Authority, the de-designation of those adjoining agricultural lands for MUN and AGR (Meadors Decl. at ¶ 37).

VWMC recommends that the Board must clarify the water uses by Starrh Farms, which is predominantly surface water.

VWMC Comment No. 45 Response:

Board staff appreciate, and have considered, the information submitted by VWMC regarding the water use by Starrh Farms. The Board has limited knowledge of the water use by Starrh Farms but does believe that the farm was primarily relying on surface water for irrigation.

VWMC Comment No. 46:

VWMC Comment Letter Comment O.2 stated that Section 1.2.4 in the Draft Staff Report uses very old (2010) population data for McKittrick. VWMC further stated that that must be updated along with a recognition that there are no other communities or homes using groundwater in the Project Area for MUN use. VWMC recommends that the Board should make the redlined changes to Section 1.2.4 suggested by VWMC.

VWMC Comment No. 46 Response:

The Draft Staff Report has been revised to include the most current census population data of 2020. Additionally, Board staff included a sentence at the end of the paragraph that was suggested by VWMC.

VWMC Comment No. 47:

VWMC Comment Letter Comment P.1 stated that the Porter Cologne Water Code section 13000 requires all water quality regulation to be “reasonable.” VWMC further stated that is not reasonable to assign a use where one does not exist and is unlikely to be attained. VWMC additionally stated that in addition to reviewing the criteria for de-designation, the Board must also review whether any prior blanket designation was appropriate.

VWMC further stated that although the blanket designation may have been a reasonable approach to a complex problem of a large number of waters needing use designation; it was also, admittedly, “a temporary palliative for the lack of beneficial use information,” and in some cases, a “known falsehood.” (Meadors Decl., Exhibit 3, at 13:1-3). VWMC additionally stated that, therefore, the Basin Plan also charges the Board with the responsibility, on a “case-by-case basis”, to correct an erroneous designation (*CASA v. SWRCB* (2012) 208 Cal App. 4th 1438, 1446-7, 1461.) VWMC stated that, as articulated by the State Board in its Vacaville Order, “[a]t a minimum, where a Regional Water Quality Control Board has evidence that a use neither exists nor likely can be feasibly attained, the Regional Board must expeditiously initiate appropriate Basin Plan Amendments to consider dedesignating the use. If the Board unreasonably fails or refuses to do so, mandamus will lie.” (SWRCB Order No. 2002-0015).

VWMC suggested that the Board must remove the MUN and AGR uses in the Project Area because no evidence was provided to demonstrate that those uses either exist or are likely to be feasibly attained. VWMC further stated that, in fact, the Draft Staff Report concludes that groundwater is not being applied, has not been applied, and is not expected to be applied, for MUN and AGR beneficial uses.

VWMC Comment No. 47 Response:

As described by the commenter, the Vacaville decision provides that the board should expeditiously initiate Basin Plan Amendments where “[it] has evidence that a use neither exists nor likely can be feasibly attained.” Board staff have reviewed the record and found that the uses do not currently exist and considered current water quality data and other information to evaluate whether these uses could be “feasibly attained.” The resulting proposed de-designation area has been located using these parameters and is fully supportable by evidence in the project record. As such, the Board has comprehensively reviewed the groundwater data in the Project Area to determine what groundwater meets the criteria for de-designation of the MUN and AGR beneficial uses. This is following the *CASA* decision, which also states that a court cannot order the Board to adopt a particular amendment. (*CASA*, supra, 208 Cal.App.4th at 1462.).

Please see also Board staff Response to VWMC Comment No. 28 for a discussion regarding the blanket designations of the beneficial uses.

Please see Board staff Response to CVSC Comment No. 4, regarding the evaluation of potential agricultural uses even without current agricultural use.

Additionally, Board staff revised Section 6.2.1 of the Draft Staff Report, replacing “The groundwater is not being applied, has not been applied, and is not expected to be applied, for MUN and AGR beneficial uses.” with “The groundwater in the Revised Project Zone is not currently known to be used for MUN or AGR beneficial uses, and is not anticipated to be used for MUN or AGR beneficial uses in the future.”.

VWMC Comment No. 48:

VWMC Comment Letter Comment P.2 stated that again, the 'Laws, Plan and Policies Relevant to Basin Planning' Section includes improper references to the Sources of Drinking Water Policy, which is not a valid regulation. VWMC suggested that the Board staff should include the redlined changes to this Section provided by VWMC to correct that error and to add additional information.

VWMC Comment No. 48 Response:

Please see Board staff Response to VWMC Comment No. 16 regarding the validity and applicability of State Board Resolution 88-63, the State Board Sources of Drinking Water Policy.

VWMC Comment No. 49:

VWMC Comment Letter Comment Q.1 stated that the Board proposes to revise the Project Area to a smaller footprint "[b]ased on an evaluation of existing groundwater quality within the Project Area." VWMC further stated that the Board only considered a narrow set of data, and only for TDS/EC, and that other available data and other constituents must also be reviewed.

VWMC suggested that the Board must review all readily available information and data, which demonstrates that a larger footprint, including the entire Project Area, is warranted for de-designation because MUN and AGR uses do not exist in that whole area due to constituent levels that cannot reasonably be treated for domestic use using either Best Management Practices or best economically achievable treatment practices. VWMC further stated that if such treatment or practices were feasible or successful, more uses of the groundwater would be evident.

VWMC Comment No. 49 Response:

Please see Board staff Responses to VWMC Comment Nos. 3, 11, 20, and 27 regarding concerns that a narrow set of data was used for the evaluation of the proposed BPA, and that additional data or information is suggested to be used by the commenter.

Additionally, please see Board staff Response to CIPA Comment No. 2 regarding constituents other than TDS not being evaluated for in the proposed BPA.

VWMC Comment No. 50:

VWMC Comment Letter Comment Q.2 stated that most of the data available in the Upper Tulare Sands and Lower Tulare Sands at or near the McKittrick Facilities and Clean Harbors hazardous waste facility show groundwater TDS greater than 3,000 mg/L (VWMC Appendices 2-4). VWMC further stated that other parts of the Project Area of the proposed BPA are either dry (and therefore meet the MUN and AGR de-designation criteria related to inability to maintain a water supply of 200 gallons or more per day) (VWMC Appendices 2 and 3), or contain water above 3,000 mg/L (VWMC

Appendix 4), and that most of the data being relied upon in the Draft Staff Report are actually in the Tulare Formation (VWMC Appendices 2 and 3).

VWMC suggests that the Board should exempt the Tulare Formation and Alluvium under and near the McKittrick Facilities and the Clean Harbors facility from MUN and AGR; maintaining these use designations in the Basin Plan suggests that people should or could use this water for these purposes, which seems like a bad public policy when related to oilfield-related industrial sites or a hazardous waste facility.

VWMC Comment No. 50 Response:

Board staff's evaluation of the geology within the Project Area identified that all but seven of the groundwater wells within the Project Area are completed in the alluvium and not in the Tulare Formation based on geologic interpretations made by the USGS and neighboring oil and gas operators.

In addition, waste management units operated by Clean Harbors, within the Project Area are lined and subject to WDRs. The liners provide protection to the underlying groundwater not being proposed for de-designation, as it does not meet the criteria.

Regarding the ability of a zone to produce 200 gallons of water per day, Board staff acknowledge that there *may* be parts of the Project Zone which cannot produce 200 gallons of water per day, a condition not uncommon of surficial sediments. However, there was insufficient data (i.e., pumping data, aquifer parameters, etc.) to allow Board staff to evaluate this parameter in the Project Area for this. In addition, most of the Project Zone appears to be able to produce water, as all of the places being de-designated include wells operated by VWMC and Clean Harbors which produce enough water to be sampled every quarter. There is only one monitoring well that has always been dry according to monitoring reports (outside of the Revised Project Area, and to the northwest). That area was not included in the Revised Project Area (i.e., de-designated area), because there is no water quality data available. In the absence of data, Board staff could not evaluate that part of the Project Area and therefore could not decide if it meets the criteria for de-designation.

Please see Board staff Response to VWMC Comment No. 4.

VWMC Comment No. 51:

VWMC Comment Letter Comment Q.3 stated that in the greater Project Area of the proposed BPA, most of the data available for Upper Tulare Sands groundwater conditions shows that TDS values are greater than 3,000 mg/L TDS (VWMC Appendix 2). VWMC further stated that a review of existing electric logs below the CCE shows very low resistivity, meaning higher salinities; this data should have been used to include the upper Tulare in the Basin Plan exemption above the Tulare middle Clay, or all of the Tulare in the Project Area of the proposed BPA. VWMC additionally stated that Board staff consistently noted the following: "The Tulare Formation, which underlies the

CCE, can also contain an aquifer, but the natural quality is much lower ($> 4,000$ mg/L TDS), especially where there is little surface recharge, like in the dry western portions of the San Joaquin Valley (Gillespie et al., 2022).” VWMC stated that this shows that Board staff’s recommendation to exclude the Tulare in this proposed BPA is contrary to the available information and information provided by its own Peer Reviewers (see VWMC comments related to the External Scientific Peer Review further into the VWMC Comment Letter.)

VWMC recommends that the Board should include the Tulare Formation in the de-designated Project Zone.

VWMC Comment No. 51 Response:

Please see Board staff Responses to VWMC Comment Nos. 3, 11, 20 and 50 and CIPA Comment No. 2, regarding the VWMC recommendation that the Board include the Tulare Formation in the vertical extent for the proposed de-designation zone of the proposed BPA.

VWMC Comment No. 52:

VWMC Comment Letter Comment R.1 stated that the Board unreasonably failed to include an alternative in the Draft Staff Report Section 4 to de-designate the entire Project Area and underlying groundwater. VWMC further stated that the Board failed to provide adequate evidence to support decreasing the area and aquifers being considered. VWMC additionally stated that, as held in the CASA case, where there is evidence that the beneficial use designated is not feasibly attainable, it is the agency’s obligation to undertake the actions necessary to ascertain and designate the appropriate beneficial uses (CASA, supra, at 1461).

VWMC suggested that the Board must modify the Draft Staff Report Alternative 2 to encompass either the entire Project Area, or areas with recent data showing the ability to produce over 200 gallons per day of water, and water consistently below 3,000 mg/L; VWMC further suggested that the Board include the redlined changes that VWMC suggested for Section 4 of the Draft Staff Report in order to accomplish this VWMC request.

VWMC Comment No. 52 Response:

Board staff reviewed all available data when reviewing the groundwater data to determine whether the criteria for de-designation of the MUN and AGR beneficial uses were met. Where the criteria was satisfied based on the available data, the Board staff recommended de-designation and is proposing the draft BPA. This satisfies the Board’s obligation to review the beneficial use designations and propose de-designation where appropriate.

The horizontal extent of the Revised Project Area was determined by Board staff evaluating the available data and information in the Project Area, including comparing

groundwater quality data to de-designation criteria thresholds. Therefore, the horizontal area proposed for de-designation of the MUN and AGR beneficial uses is what is supported by the currently available information and data for the entire Project Area.

Please also see Board staff Responses to VWMC Comment Nos. 3, 11, 20 and 21.

VWMC Comment No. 53:

VWMC Comment Letter Comment R.2 stated that in Section 4 of the Draft Staff Report, Table 4-1 needs to be modified to show a Project Zone alternative that includes the entirety of the Project Area as well as include a vertical exemption throughout the Alluvium, the Tulare Formation and deeper. VWMC additionally stated that the Draft Staff Report places too much focus on salinity criteria and not the other criteria that could indicate a natural/manmade pollution; the Draft Staff Report must consider the alternative of de-designating the entire Project Area based on other criteria besides TDS data. VWMC suggested that the Board should include Alternative 2 as amended by VWMC to de-designate the Project Area and all underlying groundwater, and that the Board should also include the redlined edits suggested by VWMC to Section 4 and its subsections.

VWMC Comment No. 53 Response:

Please see Board staff Responses to VWMC Comment Nos. 3, 11, 20, 21, 27, and 52.

The horizontal extent of the Revised Project Area was determined by Board staff evaluating the available data and information in the Project Area, including comparing groundwater quality data to de-designation criteria thresholds. Therefore, the horizontal area proposed for de-designation of the MUN and AGR beneficial uses is what is supported by the currently available information and data for the entire Project Area.

Please see Board staff Response to VWMC Comment No. 3, regarding the VWMC recommendation that the Board include the Tulare Formation in the vertical extent for the proposed de-designation zone of the proposed BPA.

Please see the Board staff Response to CIPA Comment No. 2 regarding additional exemption criteria other than TDS levels not being evaluated for the proposed BPA.

VWMC Comment No. 54:

VWMC Comment Letter Comment S.1 stated that throughout the Draft Staff Report VWMC has suggested grammatical corrections to only use “which” after a comment or to instead use “that”.

VWMC Comment No. 54 Response:

This comment is appreciated and was taken into consideration.

VWMC Comment No. 55:

VWMC Comment Letter Comment S.2 stated that this proposed BPA must be reviewed in context of the larger CV-SALTS process and the need for salt management areas within the Central Valley Region. VWMC further stated that since the west side of Kern County has generally low-quality water and a high instance of oil production, this likely would be a good location for salt management, but that cannot occur if MUN and AGR uses are designated in these areas.

VWMC suggested that the Board should add findings similar to the following to Section 5: “De-designation may be an important step in determining areas for salt management under the CVSALTS program. These areas will become important to protect other areas with higher quality water. Therefore, this action will help implement salt reduction and management activities in other areas of the Central Valley to convey a net benefit.”

VWMC Comment No. 55 Response:

The Salt Control Program in CV-SALTS is designed to address the long-term impacts of elevated salinity throughout the Central Valley region. One element of the Prioritization and Optimization Study currently being conducted as part of the Salt Control Program is to identify and prioritize preferred physical projects for long-term salt management. This could include the use of salt sinks, which may necessitate de-designation of beneficial uses. If salt management areas are proposed that require de-designation of surface or groundwaters, the Board will review them under the appropriate criteria in the Basin Plan(s). The Board supports the Salt Control Program and will work with the Central Valley Salinity Coalition on any necessary Basin Plan Amendments.

VWMC Comment No. 56:

VWMC Comment Letter Comment T.1 stated that the Board stated in Section 6.1.4 of the Draft Staff Report that the “proposed Basin Plan Amendment is not expected to affect climate change” or “produce a measurable change in existing GHG [Greenhouse Gas] emissions.” VWMC further stated that maintaining non-existent uses might require treatment that would affect GHG levels and that is not being considered in relation to the No Action Alternative or Alternative 3, which designates less than the entire Project Area and underlying groundwater.

VWMC suggested that the Board should consider the impacts of not acting to modify the uses, or too narrowly defining, the de-designation area of the proposed BPA.

VWMC Comment No. 56 Response:

These potential impacts have been considered and the de-designation of the proposed area would, if anything, reduce the need for treatment and possible associated GHG levels in comparison with current conditions.

VWMC Comment No. 57:

VWMC Comment Letter Comment T.2 stated that Section 6.2.1 of the Draft Staff Report

discusses the Antidegradation Policy and states that the existing water quality for baseline is “the date on which such policies become effective.” VWMC further stated that since the Antidegradation Policy, SWRCB Res. 68-16, became effective in 1968, that sets the baseline. VWMC additionally stated that produced water was already being managed in the area prior to this date, so that low water quality represents the baseline for determining that the Antidegradation Policy is inapplicable.

VWMC suggested that the Board should insert information about the 1968 baseline date and preexisting produced water management in the area at that time into Section 6.2.1 of the Draft Staff Report.

VWMC Comment No. 57 Response:

Section 6.2.1 of the Draft Staff Report finds that the area proposed for de-designation is not a high-quality water and thus does not trigger the Antidegradation Policy. The Board recognizes that VWMC began discharging oilfield produced wastewater prior to 1968 but it is not necessary to include that information in section 6.2.1 of the Draft Staff Report because the Antidegradation Policy is not triggered and therefore there is no analysis regarding degradation from the baseline water quality.

VWMC Comment No. 58:

VWMC Comment Letter Comment T.3 stated that, as previously commented by the VWMC, Section 6.2.2 of the Draft Staff Report must direct its focus to Board Resolution 89-098 as the authority for the proposed BPA, and not include the State Board Sources of Drinking Water Policy (State Board Resolution 88-63) as an authority for this proposed BPA. VWMC additionally recommended that the Board make several edits to Section 6 of the Draft Staff Report that are suggested by the VWMC in redline changes in the Draft Staff Report.

VWMC Comment No. 58 Response:

The Board is relying on the criteria in the Basin Plan for the de-designation of the MUN and AGR beneficial uses. The proposed Basin Plan Amendment must conform to all applicable State laws and regulations, including applicable State Policies. Section 6.2.2 is a discussion of the Sources of Drinking Water Policy as an applicable State Policy and should remain as drafted. Please see Board staff Response to VWMC Comment No. 16 regarding the validity and applicability of State Board Resolution 88-63, the State Board Sources of Drinking Water Policy.

VWMC Comment No. 59:

VWMC Comment Letter Comment U.1 stated that Section 7.1 of the Draft Staff Report states that “other alternatives were evaluated,” but environmental review was limited to the Board staff recommended Alternative 3 for both MUN and AGR; this review is too narrow.

VWMC recommended that the Board should at least analyze the other alternatives of de-designating the entire Project Area and underlying groundwater; this reasonable alternative should be more carefully reviewed and compared to the Board staff's preferred alternative.

VWMC Comment No. 59 Response:

The Draft Staff Report describes the range of alternatives that Board staff evaluated for the MUN and AGR beneficial use. Section 4.1.5 describes the evaluation of project alternatives for the MUN beneficial use and Section 4.2.5 describes the evaluation of project alternatives for the AGR beneficial use.

VWMC Comment No. 60:

VWMC Comment Letter Comment U.2 stated that Section 7.4 of the Draft Staff Report states that “a SED [Substitute Environmental Document] must contain ‘an analysis of reasonable alternatives to the project and mitigation measures to avoid or reduce any significant or potentially significant adverse environmental impacts.’”. VWMC also stated that the failure to de-designate the other parts of the Project Area excluded from the proposed Revised Project Area and Zone would have impacts; these impacts were not analyzed when the uses were designated, so they must be analyzed now.

VWMC further stated that the Board as the lead agency “must consider a range of alternatives sufficient to permit the agency to evaluate the project and make an informed decision, and to meaningfully inform the public.” (*Federation of Hillside & Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1264 (“*Federation*”).) VWMC additionally stated that to achieve this, the SED must consider and evaluate a “reasonable range” of alternatives to the proposed project (CEQA Guidelines, § 15126.6(a)), and that this alternatives analysis must provide “sufficient information to compare the project with a reasonable choice of alternatives.” (*Federation, supra*, 83 Cal.App.4th at p. 1264).

VWMC further stated that the SED for the proposed BPA purports to include four alternatives, but in truth only contains a single realistic alternative (Alternative 2) to the proposed Project (the Board staff recommended alternative - Alternative 3).

VWMC also stated that the no-project alternative listed in the SED is not legally feasible, as failure to undertake the proposed project would violate the Writ of Mandate issued in *Valley Water Management Company v. California Regional Water Quality Control Board, Central Valley Region* (Kern County Superior Court Case No. BCV-19-101750) as well as the CASA case, since the Board has evidence that the MUN and AGR uses are non-existent in the Project Area.

VWMC further stated that Alternative 4 listed in the SED does not provide a meaningful alternative to the proposed BPA, as the Draft Staff Report acknowledges that it “would be inconsistent with the intent of the Basin Plan and *Sources of Drinking Water Policy*

criteria for TDS levels,” and “would not satisfy the selection criteria.” (Draft Staff Report, pp. 35, 42). VWMC additionally stated that listing project alternatives that do not meet project objectives does nothing to contribute to the required meaningful analysis of project objectives (*Save Our Capitol! v. Department of General Services* (2023) 87 Cal.App.5th 655, 704).

VWMC additionally stated that, therefore, the SED really only contains one legitimate alternative to the proposed project, which is Alternative 2, but this alternative is again overly narrow and should encompass all of the Project Area and underlying groundwater. VWMC further stated that, as currently proposed, the proposed BPA fails to present a true range of alternatives at all, let alone a “reasonable range of alternatives.” (CEQA Guidelines, §15126.6; see generally *Habitat & Watershed Caretakers v. City of Santa Cruz* (2013) 213 Cal.App.4th 1277, 1300-1305). VWMC also stated that this failure thwarts informed decision-making and violates CEQA’s mandate.

VWMC suggests that the Board should compare the impacts of de-designating part of the Project Area (Alternative 3) to de-designating the entire Project Area (per a revised Alternative 2). VWMC additionally suggests that the Board should also make the redlined changes proposed by VWMC in Section 7 of the Draft Staff Report.

VWMC Comment No. 60 Response:

Please see Board staff Responses to VWMC Comment Nos. 3, 11, 20, 21, 52, and 53, regarding the review of the entire Project Area and the appropriateness of expanding Alternative 2.

Board staff disagree that all alternatives except the recommended alternative are unreasonable. Furthermore, the commenters proposed “new” alternative was considered during the initial review of the entire Project Area and the recommended alternative is the same alternative with a Revised Project Area to comport with statutory requirements described in the Basin Plan.

The “no project” alternative is required under CEQA, and Board staff noted that it was not appropriate because portions of the Revised Project Zone could not be used for MUN or AGR beneficial uses.

The commenter also suggests that potential environmental, and other impacts of the recommended alternative (i.e., associated with the revised or smaller de-designation area) must be compared with the potential to de-designate the larger area described in the commenter’s alternative. Comparing environmental impacts of one alternative against another is not required under CEQA, Water Code, or the Basin Plan. Instead, the recommended alternative must be compared with a described baseline condition; in this case it is defined as the “existing condition.” The proposed Draft Staff Report correctly analyzes the impacts of the recommended alternative. Furthermore, the recommended alternative is an adaptation of the commenter’s proposed alternative that

meets statutory requirements and minimizes the potential for environmental impacts. The recommended alternative is to de-designate the maximum volume of the commenter's proposal that meets Basin Plan criteria,

The horizontal extent of the Revised Project Area was determined by Board staff evaluating the available data and information in the Project Area, including comparing groundwater quality data to de-designation criteria thresholds. Therefore, the horizontal area proposed for de-designation of the MUN and AGR beneficial uses is what is supported by the currently available information and data for the entire Project Area.

VWMC Comment No. 61:

VWMC Comment Letter Comment U.3 stated the following about the Environmental Checklist (Appendix D of the Draft Staff Report for the proposed BPA):

a. VWMC Comment No. 61.a.:

Page D-7 states: "Under the No Action Alternative, dischargers would retain an undue responsibility under the Basin Plan to protect portions of groundwater within the Revised Project Zone, which is not being used or feasible for municipal or agricultural purposes, and portions of which are already considered a non-USDW under the federal Sources of Drinking Water Act."

VWMC stated that this same issue exists with Alternative 2 since the entire area has no use or feasible way to use water for MUN or AGR.

VWMC Comment No. 61.a. Response:

It is unclear whether VWMC is meant to refer to Alternative 2 or Alternative 3 (the recommended alternative). Alternative 3 would protect groundwater that does not meet the criteria for de-designation, regardless of whether it is being currently used for MUN or AGR, while de-designating areas that do meet the criteria in the Basin Plan and reduce the regulatory burden on dischargers within the Revised Project Zone.

b. VWMC Comment No. 61.b.:

Page D-8 states: "Injection of produced wastewater in the Revised Project Area was not considered as part of this Project. Injection of produced wastewater via underground injection control wells does not currently occur in the Revised Project Area and is not anticipated to in the future."

VWMC stated that injection was approved in the Project Area (and in the Revised Project Area), and that in 1986, the Division of Oil and Gas approved a "water disposal project in the Lower Tulare zone." (Meadors Decl. at ¶ 39, Exhibit 7 [Division of Oil and Gas documents related to injection well projects in the Project Area]); continuance of the projects was granted in 1988, 1990, and 1991 (*Id.*). VWMC additionally stated that on March 5, 1990, VWMC received a letter from the

Division of Oil and Gas stating that it “reviewed the data submitted to this office on March 2, 1990, regarding well WI 2-19X, section 19, T.29S, R.22E, Kern County. Based upon the Water Quality Analysis from this well, the aquifers below 1250 feet and above the top of the Etchegoin formation (drill depth) exceed 10,000 ppm total dissolved solids and, by Federal Underground Injection Control Program definition, are not underground sources of drinking water.” (*Id.*). VWMC further stated that therefore, a Class II injection well was approved into the Tulare Formation below 1250 feet, and that these UIC [Underground Injection Control] wells were located next to the McKittrick 1&1-3 facility (*Id.*).

VWMC Comment No. 61.b. Response:

This comment is appreciated. Board staff have revised the Environmental Checklist to replace ‘Revised Project Area’ with ‘Revised Project Zone’, to clarify that the injection wells mentioned in the comment are at depths below the Revised Project Zone vertical extent.

c. VWMC Comment No. 61.c.:

Page D-9 states: “Vertically, the point of compliance at which groundwater is required to be protective of designated beneficial uses is at the Upper Tulare Member of the Tulare Formation, underlying the CCE.”

VWMC stated that this vertical delineation is problematic and unreasonable, as evidence exists that 3,000/5,000 is not met in at least part of the Tulare Formation (see VWMC Appendices 2 and 3). VWMC further stated that furthermore, previously de-designated areas were not precise; for example, Table 2-3 of the Basin Plan Exception Area 2 states only that “Groundwater and spring water within ½ mile radius of the McKittrick Waste Treatment site,” and does not vertically differentiate that water.

VWMC Comment No. 61.c. Response:

Please see Board staff Responses to VWMC Comment No. 3, 11, 20 and 27, as well as CIPA Comment No. 2.

Additionally, Board staff revised page D-10 (formerly page D-9) of the Draft Staff Report Appendix D, to now state that the vertical compliance point at which groundwater is required to be protective of designated beneficial uses below the Revised Project Zone is now “beneath the top of the CCE layer.”

d. VWMC Comment No. 61.d.:

Page D-10: VWMC stated that the Board stated that Valley Water submitted a comment letter on 22 May 2023, raising issues such as the need to look for additional data, using more than just the TDS criterion, potential impacts of inaction or a too limited area of de-designation, analysis of uses in the Project Area,

subcategorizing uses, and providing Valley Water's preferred project, which was not included. VWMC further stated that the Board had more than two years to address these comments but chose not to do so.

VWMC Comment No. 61.d. Response:

Please see Board staff Responses to VWMC Comment No. 3 and CIPA Comment No. 2.

e. VWMC Comment No. 61.e.:

There is no evidence that the Environmental Checklist for the proposed BPA would be different from the changes proposed to, and adoption of, a modified Alternative 2 as suggested by VWMC for the entire Project Area, and de-designation without vertical restriction.

VWMC Comment No. 61.e. Response:

A modified Alternative 2 would not be supportable as the entire Project Area does not meet the criteria for de-designation of the MUN and AGR beneficial uses. As stated in previous Board staff responses, the Board is proposing to de-designate the MUN and AGR beneficial uses where there is sufficient data to demonstrate that the groundwater meets the criteria for de-designation in the Basin Plan. Board staff cannot recommend an alternative that does not fully comply with the Basin Plan. Furthermore, if the entire Project Area were de-designated, then there could be additional impacts to water quality due to the potential for reductions in requirements for discharges in the Project Area that could impact groundwater within the Project Area that currently has the potential to support the AGR and MUN beneficial uses.

f. VWMC Comment No. 61.f.:

Page D-17: VWMC stated that this finding would still be true (as would most all, if not all, of the other findings) if the word "Revised" was removed: "No residences exist within the Project Area, and the groundwater in the subject aquifers is not used for municipal or agricultural uses. There is one agricultural supply well known to exist in the Revised Project Area. However, it is not used regularly and is known to supply water that exceeds 15,000 mg/L TDS."

VWMC Comment No. 61.f. Response:

This comment is appreciated and was taken into consideration.

g. VWMC Comment No. 61.g.:

VWMC stated that the Environmental Checklist could look exactly the same if the word "Revised" was removed from Project Area, and the Project Zone extended further than the Alluvium: "The de-designation of MUN and AGR uses would not create a physical impact on water quality and supply, as such uses are already non-existent in the ~~Revised~~ Project Area and the groundwater is already highly impacted." (page D-33). "Water supply for agriculture within the project area is

currently provided by surface water.” (*Id.*). “Water supply for irrigation is already provided by imported surface water, and de-designation would not alter this use.” (page D-46).

VWMC Comment No. 61.g. Response:

This comment is appreciated and was taken into consideration. Please see Board staff Response to VWMC Comment No. 61.e. The groundwater data demonstrates that not all areas within the Project Area are highly impacted by elevated TDS, and some retain higher quality groundwaters.

VWMC Comment No. 62:

VWMC Comment Letter Comment V.1 stated that in Section 8 of the Draft Staff Report the Board alleges that the Water Code section 13241 factors, including economics, need not be considered because that analysis is only needed when “WQOs [are] established under the Basin Plan.” VWMC further stated that, however, the court in the *CASA* case discussed the *City of Arcadia* case and its reasoning, which it found “significant.” (*CASA, supra*, at 1460, fn 19).

Citing *Arcadia*, the *CASA* court stated that under both the Clean Water Act and the Porter-Cologne Act the focus of a Basin Plan is the water bodies and the beneficial uses of those water bodies, and that the Porter-Cologne Act requires Regional Water Quality Control Boards to ‘formulate and adopt water quality control plans for all areas within the region.’ (*CASA, supra*, at 1444 citing Water Code §13240). VWMC further stated that under Water Code Section 13050, subdivision (j) defines a “[w]ater quality control plan” as applying to the “[b]eneficial uses to be protected” “for the waters within a specified area.” (*Id.* at 1444 and 1460, fn 19, citing Water Code §13050(j)). VWMC additionally stated that the *CASA* court found that “[b]y necessary implication, the formulation of water quality control plans would trigger the need to comply with section 13241.” (*Id.* at 1460, fn 19).

VWMC also stated that water quality objectives (WQOs) are included in water quality control plans to “ensure the reasonable protection of beneficial uses” although “it is recognized that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses.” (Water Code §13241). VWMC additionally stated that the *CASA* court also held that “WQOs are not discreet items adopted in a vacuum, but are part of a complex array of historical, geographic, technical and practical considerations, all of which are dynamic and, to some degree, subject to further analysis as the objectives are implemented.” (see *CASA, supra*, at 1465, fn 25, citing, for example, the discussion of Water Quality Objectives and the description of the Policy for Application of Water Quality Objectives in the 1995 Basin Plan). VWMC further stated that, thus, the interconnection between WQOs and beneficial uses is inextricable – WQOs are only set based on the uses to be protected, so the use designation has a direct impact on the WQOs needed and would also trigger a 13241

analysis. VWMC additionally stated that, thus, the Board must consider the economic implications of its proposed BPA and the reasonable alternatives thereto.

VWMC suggests that the Board must analyze the Water Code section 13241 factors when amending the Basin Plan to modify the beneficial uses.

VWMC Comment No. 62 Response:

The Board disagrees with VWMC's reading of *CASA* to conclude that the Board must consider Water Code section 13241 when proposing Basin Plan Amendments that do not involve water quality objectives. As the *CASA* court noted in the main text of the decision, *Arcadia* held that Water Code section 13241 "requires the regional board to consider specific factors in *establishing water quality objectives*." (*CASA*, supra, at 1460, citing *City of Arcadia v. State Water Resources Control Board* (2010) 191 Cal.App.4th 156, 176 (*Arcadia*) (emphasis added).) In the footnote, the court said that the "formulation" of water quality control plans would trigger the need to comply with Water Code section 13241. (*CASA*, supra, at fn. 19.) The term formulation is key and used in Water Code section 13240 which requires each regional board to *formulate* and adopt water quality control plans. Therefore, when the Regional Water Quality Control Boards were creating their Basin Plans, including designating the beneficial uses and water quality objectives, *CASA* held that they are required to comply with Water Code section 13240. VWMC's expanded interpretation of the footnote to include all Basin Plan Amendments involving beneficial uses would render the plain language of Water Code section 13241 meaningless. Water Code section 13241 says that "[f]actors to be considered by a regional board in establishing water quality objectives shall include...." The designation and de-designation of beneficial uses through a Basin Plan Amendment do not establish water quality objectives and thus are not required to consider the factors listed in Water Code section 13241. This action solely involves the de-designation of MUN and AGR beneficial uses and does not involve the establishment of water quality objectives and under the holdings of both *CASA* and *Arcadia*, is not required to consider the factors in Water Code section 13241.

VWMC Comment No. 63:

VWMC Comment Letter Comment W. stated that the scope of the Peer Review conducted was unreasonably skewed toward the Board preferred alternative.

Additionally, VWMC stated that many of the Peer Reviewers raised the same issues raised by VWMC, which further calls into question the Board's conclusions and recommendations.

VWMC Comment No. 63 Response:

These comments are noted and were considered by Board staff. Additionally, Board staff diligently followed all of the requirements for the External Peer Review process.

Please also see Board staff Response to the External Scientific Peer Review document (Appendix E to the Draft Staff Report for McKittrick Basin Plan Amendment – Response to External Peer Review Comments).

VWMC Comment No. 64:

VWMC Comment Letter Comment W.1 stated that inadequate criteria were provided by the Board to the External Scientific Peer Reviewers for their evaluations of the proposed BPA and supporting documents; Board staff only gave the Peer Reviewers one MUN de-designation criteria for review: “The Tulare Lake Basin Plan provides criteria for determining exceptions to the MUN beneficial use designation,¹ including Criterion (1) which applies to water bodies where the concentration of total dissolved solids (TDS) exceeds 3,000 mg/L.” (9/27/24 Board Letter to Carol Perkins at page 8). VWMC further stated that this ignores the other 3 criteria that also should have been analyzed and reviewed for this proposed BPA evaluation.

VWMC additionally stated that, similarly, the Board only provided one AGR de-designation criteria to the External Scientific Peer Reviewers for review: “One of those criteria is the presence of pollution that cannot reasonably be treated for agricultural use. In the absence of an established salinity water quality objective for the protection of the AGR beneficial use, the Board relied upon scientific literature to provide salinity threshold concentrations that are generally considered to be protective of the AGR beneficial use.” (*Id.*)

VWMC Comment No. 64 Response:

Board staff disagree that inadequate criteria were provided to the peer reviewers. The peer review included the Draft Staff Report in its entirety. Peer review questions flagged issues identified in the Draft Staff Report, but the peer reviewers are not limited to commenting on flagged issues. Additionally, Board staff diligently followed all of the requirements for the External Peer Review process.

Please also see Board staff Response to the External Scientific Peer Review document (Appendix E to Draft Staff Report for McKittrick Basin Plan Amendment – Response to External Peer Review Comments).

Additionally, please also see Board staff Response to CIPA Comment No. 2 regarding additional exemption criteria other than TDS levels not being evaluated for the proposed BPA.

VWMC Comment No. 65:

VWMC Comment Letter Comment W.2 stated that not all External Scientific Peer Reviewers agreed with the Board staff recommendations.

VWMC Comment No. 65 Response:

Four peer reviewers participated in the External Scientific Peer Review to evaluate the

reasonableness and soundness of six main scientific conclusions that support the proposed BPA, The peer reviewers were chosen for the External Scientific Peer Review for the proposed BPA for evaluation of specific conclusions based on their collective combination of broad knowledge and expertise in subsurface hydrology, livestock/animal science, and agronomy.

In none of the evaluations of the six scientific conclusions was there a unanimous disagreement of the peer reviewers with what the Board staff proposed for this BPA.

The main disagreement between some of the peer reviewers and Board staff involved the use of different models to evaluate the location and characteristics of the geologic layers underlying the Project Area. Board staff used a USGS model that Board staff believe is more accurate and appropriate to use, as it uses more data points and is more consistent with interpretations made by oil and gas operators in the vicinity of the Project Area than the geologic model used by VWMC, which does not take into account all of the wells applicable to the model.

Two of three peer reviewers that evaluated Conclusions 1 through 3 (regarding the subsurface hydrology, water quality, and boundaries of proposed MUN beneficial use de-designation in the groundwater of the Revised Project Zone) disagreed with the Board staff due to the utilization of these differing models for the evaluations.

All three peer reviewers that evaluated Conclusion 4 supported the Board staff proposal of 5,000 mg/L as an appropriate value to use for a threshold for AGR de-designation.

Two of three peer reviewers that evaluated Conclusion 5 agreed with the Board staff proposed extent for the AGR beneficial use de-designation in the Revised Project Zone.

Additionally, regarding Conclusion #6, in regards to the entire proposed BPA being based on sound scientific knowledge, methods, and practices, one peer reviewer agreed, one mostly agreed (except for the modeling disagreement discussed previously in this comment response), and one peer reviewer disagreed. Please also note that one of the peer reviewers (Dr. Isaya Kisekka) evaluated all six conclusions and determined that all six are scientifically reasonable and defensible.

Please additionally see the Board staff Response to Comments for the External Scientific Peer Review document (Appendix E of the Draft Staff Report) for a further in-depth Board staff response to the comments from the External Scientific Peer Review panel that were in disagreement with the Board staff's scientific conclusions.

VWMC Comment No. 66:

VWMC Comment Letter Comment W.2, Conclusion 1 stated that Board staff provided certain conclusions for the Peer Reviewers; the first of these was that: "Due to this confining layer [of the CCE], oil field produced wastewater discharged to the surface of

the Revised Project Area is not expected to migrate into the Tulare Formation, as the Corcoran Clay Equivalent provides a vertical barrier.” (9/27/24 Board Letter to Carol Perkins, page 11).

VWMC further stated that this conclusion is contrary to the underpinnings and justifications of the CDO adopted for McKittrick 1&1-3 where the facility was shut in because of concerns that this conclusion was not correct (see McKittrick 1&1-3 CDO, Board Order No. R5-2019-0045 at 5, para. 19 [“...the CCE in the vicinity of the Facility does not act as a significant barrier to the downward migration...”].)

VWMC additionally stated that Peer Reviewer Dr. Alberto Bellin, at page 4 of his review, stated this conclusion was “not supported by convincing evidence.” And that because of this, he could not support the conclusion, among others, that “the Corcoran Clay Equivalent layer ‘acts as a confining layer.’”

VWMC further stated that, similarly, Dr. Gómez-Hernandez at pages 2 and 3 of his report determined: “My assessment is that, no, the conclusion that the Corcoran Clay Equivalent (CCE) in the Project Zone can act as a barrier to prevent water migration from the alluvium into the Upper Tulare Formation is not fully supported either by the reports or by the available data,” and “[t]o base the vertical boundary on the containment characteristics of the CCE formation is not defensible.”, and on page 5, he further stated: “I don’t think it is scientifically reasonable to exclude the area below the CCE from the de-designated zone.”

VWMC additionally stated that to the extent this conclusion about the containment ability of the CCE underlies the Board’s proposed Revised Project Area and Zone, those proposals are questionable; instead, the entire Project Area and Project Zone of underlying groundwater should have been an alternative considered for de-designation.

VWMC further stated that the Board cannot make one determination to shut a facility down based on one conclusion and then make the completely opposite determination to withhold the requested regulatory relief.

VWMC Comment No. 66 Response:

The findings listed in the CDO were based on data submitted in technical documents provided to Board staff by Valley Water. Board staff compared the geological interpretations of those documents to documents prepared by the USGS and nearby oil and gas operators while preparing the Draft Staff Report. During the preparation of the Draft Staff Report, Board staff found that the USGS interpretations and those interpretations made by oil operators in the area appear to be more accurate and reflective of the regional geology than the interpretations provided by Valley Water. In addition, data from monitoring wells, depths and screen intervals were corrected to the USGS interpretation, showing a clear change in TDS concentrations from the shallow part of the Project Zone to the deeper parts accessed by the monitoring wells. This

change is best explained by the presence of a confining layer, the CCE, and the geologic interpretation of the Project Area made by the USGS.

Please also see Board staff Responses to VWMC Comment No. 3, and CIPA Comment No. 2.

Additionally, as the Board staff Response to Comments for the External Scientific Peer Review document (Appendix E of the Draft Staff Report) points out, the available water quality data shows a clear difference in TDS concentrations between the alluvium (up to 16,000 mg/L) and the Tulare Formation (up to 5,500 mg/L). As mentioned above, water quality data available in the Tulare Formation is limited to seven data points, some of which suggest that de-designation for MUN and AGR is not appropriate. Without sufficient data to demonstrate that the Tulare Formation is appropriate for de-designation, Board staff cannot include it in the Basin Plan Amendment.

VWMC Comment No. 67:

VWMC Comment Letter Comment W.2, Conclusion 2 stated that Board staff's second conclusion stated: "Available water quality data does not support de-designation outside of the Revised Project Zone." (9/27/24 Board Letter to Carol Perkins, page 11).

VWMC further stated that the only water quality data considered was TDS, which ignores the other de-designation criteria and the actual facts that there are no existing or probable future MUN or AGR uses in any of the Project Area or underlying groundwater.

VWMC additionally stated that the Board staff confirms, on page E-7 of the Response to the Peer Review document, that "the Board needs sufficient evidence to demonstrate that the groundwater meets one of the Basin Plan's criteria for de-designation of the MUN beneficial use in order to propose de-designation of that groundwater."

VWMC further stated that information shows that portions of the Tulare should be de-designated. WMC stated that, as described by Peer Reviewer Dr. Alberto Bellin, "[w]ells screened in the Lower Tulare formation showed smaller TDS concentrations, but significantly higher than the limit of 3000 mg/l, and most of them also than the AGR limit of 5000 mg/l." VWMC further stated that thus, this would support de-designation in the Tulare, which is not being proposed. VWMC additionally stated that Dr. Bellin noted that the Board Draft Staff Report misidentified wells located in the Upper and Lower Tulare formations and not in the Alluvium and the Upper Tulare formation as stated in the Draft Staff Report reviewed; the fact that the Board is misplacing the locations of wells does not provide confidence in its conclusions.

VWMC also stated that Peer Reviewer Dr. Kisekka stated: "Figure 3 complements the analysis by presenting TDS concentrations in the Tulare Formation. It confirms similarly elevated salinity levels in the upper member of the formation, with many values

exceeding 2,000 mg/L, and in some areas, reaching or exceeding 5,000 mg/L.” (Peer Reviewer Dr. Kisekka’s report at page 3 (emphasis added)).

VWMC additionally stated that Peer Reviewer Dr. Gómez-Hernandez at page 2 of his review determined: “It is not enough to say that there are not enough samples in the Tulare Formation to justify its inclusion in the de-designated area.” VWMC further stated he went further to say, “the decision to exclude the Tulare Formation from the Revised Project Zone because the quality of the water in the formation cannot be assessed, given the small number of samples, is not defensible.” (*Id.* at p. 2). VWMC additionally stated that on page 6, Dr. Gómez-Hernandez concluded “I don’t believe that the proposed basic plan amendment is based on sound scientific knowledge methods and practices....”.

VWMC stated that in its response to the Peer Review, Board staff agreed on page E-6 that “the water sampled in the wells situated in Tulare Formation approaches and even exceeds 3,000 mg/L in TDS. However, the top of the Tulare Formation is encountered at approximately 300 ft bgs and extends to a depth of approximately 1,630 ft bgs. The deepest groundwater monitoring well within the Project Zone is completed to a total depth of 490 ft bgs in the Tulare Formation, leaving the majority of the Tulare Formation unsampled.”

VWMC additionally stated that Board staff’s decision to exclude the Tulare Formation is due to the limited groundwater quality data available to evaluate the entire vertical extent of the Tulare Formation and was not based solely on the number of samples available. VWMC further stated that to include the Tulare Formation in the proposed BPA, the Board would need more rigorous data for the entire vertical extent of the Tulare Formation; without that data, the Board does not have the evidence necessary to demonstrate that the Tulare Formation meets one of the Basin Plan’s criteria for de-designation of the MUN beneficial use and cannot include it in this Basin Plan Amendment.

VWMC further stated that, however, the total exclusion of the Tulare is not the correct or a defensible solution; instead, the vertical de-designation delineation should include the Tulare, which has been shown to contain data above 3,000 or even 5,000 mg/L. VWMC additionally stated that deeper formations should also be de-designated, given the oil reserves nearby, or could at most be deemed “Potential” since there is no data *either way* to confirm or deny the quality of the water contained therein.

VWMC stated that while excluding all water in the Tulare Formation is obviously the easiest option, this option is not defensible and will not accomplish the project goals of accurately designating uses and avoiding unnecessary compliance costs for water not being used or not suitable for use as MUN or AGR.

VWMC Comment No. 67 Response:

Please see Board staff Responses to CIPA Comment No. 2 and VWMC Comment Nos. 3, and 66.

VWMC Comment No. 68:

VWMC Comment Letter Comment W.2, Conclusion 3 stated that only the Revised Project Zone is considered for de-designation because of solely the TDS criteria. (9/27/24 Board Letter to Carol Perkins at 12-13).

VWMC stated that the analysis ignores the other criteria and other reasons why there are no existing or probable future MUN or AGR uses in any of the Project Area or underlying groundwater.

VWMC further stated that, further, as Peer Reviewer Dr. Bellin points out: “GeoTracker reports TDS concentrations in the range 11000 -18000 mg/l in the wells screened in the Upper Tulare formations. In the Lower Tulare formation, the TDS concentration is as large as about half of the concentration in the Upper Tulare formation...” VWMC additionally stated that thus, the data demonstrates that areas outside the revised zone are worthy of de-designation as well. VWMC stated that Dr. Kisekka provided evidence that the groundwater “levels far exceed the Secondary Maximum Contaminant Levels (SMCLs) for drinking water established by the State Water Resources Control Board: 500 mg/L (recommended), 1,000 mg/L (upper), and 1,500 mg/L (short-term). TDS concentrations above 3,000–5,000 mg/L render groundwater unsuitable for municipal use, without extensive and economically infeasible treatment.” (Peer Reviewer Dr. Kisekka’s report at page 3); VWMC stated that these facts could have been used to determine that the pollution criterion was met independent of the separate TDS criterion for MUN de-designation.

Additionally, VWMC stated that Dr. Kisekka provided additional support for this criterion, stating: “The project area reflects the potential impact of land management activities, such as the disposal of produced wastewater in unlined ponds dating back to the 1960s, with TDS concentrations that can range from 8,400 to 56,000 mg/L. VWMC further stated that flood irrigation in the past might also have contributed to elevated TDS levels in the alluvium part of the aquifer.” (Peer Reviewer Dr. Kisekka’s report page 5).

VWMC Comment No. 68 Response:

Please see Board staff Responses to CIPA Comment No. 2, VWMC Comment Nos. 3, 66, and the Board staff’s Response to the External Scientific Peer Review document (Appendix E to the Draft Staff Report for McKittrick Basin Plan Amendment – Response to External Peer Review Comments).

VWMC Comment No. 69:

VWMC Comment Letter Comment W.2, Conclusion 4 stated that the Board selected 5,000 mg/L as the threshold for AGR de-designation even though no evidence of salt-

tolerant cotton crops, cattle grazing, or stock watering occurring within the boundaries of the Project Area was presented. VWMC further stated that this selection also ignores the other finding that: “only the most salt tolerant crops may be sustainably irrigated with water exceeding 2,000 mg/L TDS.” (9/27/24 Board Letter to Carol Perkins, page 13, citing Ayers and Westcott, 1985).

VWMC additionally stated that moreover, the Board seems to be cherry-picking data to argue areas are below its arbitrary 5,000 mg/L threshold; one example is the plot Peer Reviewer Dr. Bellin made of the TDS data for well MW-148I. VWMC stated that, while 2 data points were below 5,000 temporarily in late 2021 and early 2022, data in 2020 exceeded 8,000 and the last data point included, presumably in 2022, again exceeded 5,000 mg/L. VWMC stated that this well does not show water quality below 5,000 mg/L, particularly as a long-term average, which is the way salinity is normally regulated.

VWMC also stated that Peer Reviewer Dr. Gómez-Hernandez, on page 4 of his review, determined that while 5,000 mg/L could be considered an upper bound, but that “most agricultural guidelines point out that adverse effects on many crops appear well below this concentration (i.e., 2,000 mg/L).”

The following is the Basin Plan’s defined criteria, which does not discuss TDS at all:

“In making any exceptions to the beneficial use designation of agricultural supply (AGR), the Regional Water Board will consider the following criteria:

- (1) There is pollution, either by natural processes or by human activity (unrelated to a specific pollution incident), that cannot reasonably be treated for agricultural use using either Best Management Practices or best economically achievable treatment practices, or
- (2) The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day, or
- (3) The aquifer is regulated as a geothermal energy producing source or has been exempted administratively pursuant to 40 CFR, Section 146.4 for the purpose of underground injection of fluids associated with the production of hydrocarbon or geothermal energy, provided that these fluids do not constitute a hazardous waste under 40 CFR Section 261.3.”

VWMC further stated that if the groundwater meets any of these three criteria, then de-designation is appropriate, notwithstanding the water quality. VWMC additionally stated that the Draft Staff Report does not provide supporting data to demonstrate that the Alluvium or any perched groundwater within the Project Area is capable of producing an average sustained yield of 200 gallons of water per day and ignores the oilfield and aquifer exemption areas (see VWMC Appendix 5). VWMC also stated that the

supporting data needs to be provided, or the presumption should be that the groundwater is not capable of this level of sustained yield and can be de-designated on that criterion. VWMC further stated that this comment is consistent with the Board's comments on the CIPA BPA dated October 19, 2023, proving that this evidence should be included in the record so that each criterion is adequately reviewed.

VWMC stated that, for the reasons provided above, the 5,000 number is also not supportive of all micro-AGR uses (e.g. full range tolerated by pistachios or livestock), so it is unclear why the Board is wedded to that non-regulatory number.

VWMC further stated that in addition to the Basin Plan's actual criteria for AGR de-designation, the Basin Plan's Salinity Objective for Groundwater below does not set any actual criteria, so 5,000 mg/L is not relevant from that viewpoint either:

"3.2.5 Salinity

All ground waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use and management of water resources, except for those areas with specific beneficial use exceptions as listed in Table 2-3.

No proven means exist at present that will allow ongoing human activity in the Basin and maintain ground water salinity at current levels throughout the Basin. Accordingly, the water quality objectives for ground water salinity control the rate of increase. The maximum average annual increase in salinity measured as electrical conductivity shall not exceed the values specified in Table 3-4 for each hydrographic unit shown on Figure 3-1, except for those areas with specific beneficial use exceptions as listed in Table 2-3.

The average annual increase in electrical conductivity will be determined from monitoring data by calculation of a cumulative average annual increase over a 5-year period." (Emphasis added)

VWMC stated that on Draft Staff Report page E-13, the Board staff Response stated: "In the absence of an established salinity water quality objective for the protection of the AGR beneficial use, the Board relies upon scientific literature to provide salinity threshold concentrations that are generally considered to be protective of AGR beneficial uses." VWMC further stated that this *admits* that the Board is skirting the regulatory process and using an underground regulatory value. VWMC further stated that particularly where there is no evidence presented of any livestock (cattle, poultry, or other) use of the Project Area, the 5,000 mg/L value has no tie to any actual beneficial use. VWMC additionally stated that the Board must determine what AGR uses are existent or likely to exist in this area and use a value protective of those uses, not the highest threshold available.

VWMC stated that the June 10, 2022, Conditional Approval Letter for the CIPA Basin Plan Amendment Workplan stated:

Use of the 3,000 mg/L Total Dissolved Solids (TDS) salinity concentration threshold for Agricultural Supply (AGR) beneficial use de-designation will require a State contracted peer review that will result in additional project time necessary to complete the review. Furthermore, please be aware there is a risk that results of the review may not substantiate use of the 3,000 mg/L TDS threshold requiring use of a substantially different salinity concentration threshold value. Board staff continues to recommend use of the 5,000 mg/L TDS salinity concentration threshold value, however CIPA can propose to use whatever threshold they feel appropriate. (Underlining added.)

VWMC further stated that the Board had the opportunity here to have the Peer Reviewers review both 3,000 mg/L, 5000 mg/L, or to propose another AGR threshold option, yet the Board staff unreasonably constrained the Peer Reviewers to a review of just the 5,000 mg/L value.

VWMC Comment No. 69 Response:

Please see Board staff Responses to CVSC Comment No. 2, CVSC Comment No. 3, VWMC Comment Nos. 3, 11, 20, 27, and the Board staff Response to the External Scientific Peer Review document (Appendix E to the Draft Staff Report for McKittrick Basin Plan Amendment – Response to External Peer Review Comments).

VWMC Comment No. 70:

VWMC Comment Letter Comment W.3 stated that as raised by VWMC, the Board unreasonably constrained its analysis solely to TDS; the Peer Reviewers commented on this, saying: “Other measurements of water quality (sulfates, nitrates, alkalinity) would also provide a means to assess the adequacy of a water source for livestock use but have not been provided for review.” (Peer Reviewer Dr. Pettey’s report page 1). ... “Other water quality measurements (nitrate, sulfate, alkalinity) are potentially more important to livestock health and could also influence the suitability of a water source for livestock production purposes.” (*Id.* at 2-3).

VWMC further stated that Dr. Pettey went on to state on page 3 that: “the data needed to fully assess the quality of the groundwater may be incomplete... Total Dissolvable Solids (TDS) is a common measurement of water quality used to determine its ability to support livestock animals, but there are further qualities (nitrates, sulfates, alkalinity) that can also further confirm the suitability of a water source to support livestock health and production.”

VWMC stated that the Board staff Response at page E-12 was “Board staff agree that there could be other constituents considered when evaluating water for AGR beneficial uses, particularly livestock watering. However, consideration of other potential water

quality characteristics would take additional scientific review that would extend the time necessary to complete the Basin Plan Amendment. The Board is under a Writ of Mandate in the case of *Valley Water Management Company v. California Regional Water Quality Control Board*, Central Valley Region (Kern County Superior Court Case No. BCV-19-101750) to bring this Basin Plan Amendment to the Board for their consideration by December 2025, and so is focusing on the salinity criteria for both the MUN and AGR beneficial uses for the proposed de-designation areas. Other water quality characteristics, particularly boron, may be considered for the proposed de-designation area in an upcoming basin plan amendment for de-designation of the MUN and AGR beneficial uses in the Tulare Basin currently under development.” VWMC further stated that the fact is that the Board had years to put this information together for other constituents yet failed to do so, and is now blaming the Court’s timeline for its failure.

VWMC additionally stated that, furthermore, Peer Reviewers commented that the use of TDS also needed more granular analysis because “the designation of threshold levels of Total Dissolved Solids (TDS) levels for livestock use is variable based on species, time period of an animal consuming the increased salinity water, and other environmental factors that could influence the water requirements of an animal including temperature, humidity, and feed/forage availability.” (Peer Reviewer Dr. Pettet’s Final Peer Review Report, page 2).

VWMC Comment No. 70 Response:

Please see Board staff Responses to CVSC Comment Nos. 2, 3, and 4.

VWMC Comment No. 71:

VWMC Comment Letter Comment W.4 stated that Peer Reviewer Dr. Gómez-Hernandez (on page 3 of his Peer Review Final Report) argued that the shape of the red-shaded area in Figure 2 of the Draft Staff Report seems artificial and the areas to the east of each of the facilities should be included due to the “very high chance of having high TDS concentrations.” VWMC further stated that on page 5 of his Peer Review Final Report, Dr. Gómez-Hernandez reiterated that “I also believe the area to the east of the McKittrick 1 & 1-3, highlighted in the figure above, should be included since it is very likely to have high TDS concentrations considering the groundwater flow direction in the alluvium.” VWMC additionally stated that the Board failed to make this recommended adjustment near either facility and continued with the overly constrained Revised Project Area and Project Zone.

VWMC also stated that Page E-7 of the Board staff Response to the External Scientific Peer Review document (Appendix E to the Draft Staff Report for McKittrick Basin Plan Amendment – Response to External Peer Review Comments) states that “Reviewer #1 appears to suggest that areas outside of the Revised Project Area be de-designated for MUN and AGR beneficial uses.... The boundaries described in the Draft Staff Report

are being proposed based on the data that is available and known characteristics of the aquifers considered for the amendment. De-designation outside of areas where there are data to support de-designation (for either horizontal or vertical de-designation), would not be in alignment with the Basin Plan.”

VWMC further stated that the Board failed to review all the criteria to see if met or not, so it cannot say that de-designation outside the revised areas do not meet any of the criteria. VWMC additionally stated that the Board failed to demonstrate that any of these criteria applied to justify designation of these uses in 1989. VWMC also stated that the Board failed to justify why it has perfectly straight lines to designate the areas; the Tulare Lake Bed Beneficial Use Exemption Area at Fig. 2-3 related to Board Resolution R5-2017-0032 contained horizontal, vertical, and roughly diagonal lines. VWMC further stated that the Board failed to adequately explain how the lines it drew were formulated for those exact locations or to include areas likely to have similar groundwater quality and lack of MUN/AGR use.

VWMC also stated that the diagram below (VWMC Figure A, included in the VWMC Comment Letter) shows heterogeneous older alluvium at the surface; these deposits are 50 feet to more than 200 feet thick in the Project Area. VWMC further stated that the alluvium is underlain by the CCE, and that the CCE is present above the Tulare Formation and is often a confining bed. VWMC additionally stated that both the older alluvium and CCE are unsaturated in the vicinity of the VWMC Facility, and the Upper Tulare Sands (UTS) is separated from the Lower Tulare Sands (LTS) by a lacustrine clay layer, the Upper Tulare Clay (UTC). VWMC also stated that the LTS is divided into upper and lower zones by another clay layer, the Lower Tulare Clay (LTC) (see VWMC Appendix 1 for stratigraphic cross-sections beneath the Project Area).

VWMC stated that the Clean Harbors wells that are part of VWMC’s monitoring program are installed in two zones: termed the “Intermediate Perched Zone” and the “Lower Water Table Zone” (Cameron-Cole, 2020). VWMC further stated, as shown in VWMC Figure A below, the Intermediate Perched Zone is equivalent to the UTS, and the Lower Water Table Zone is equivalent to the LTS; additionally, a third zone, the Upper Perched Zone (Alluvium), is not monitored by VWMC.

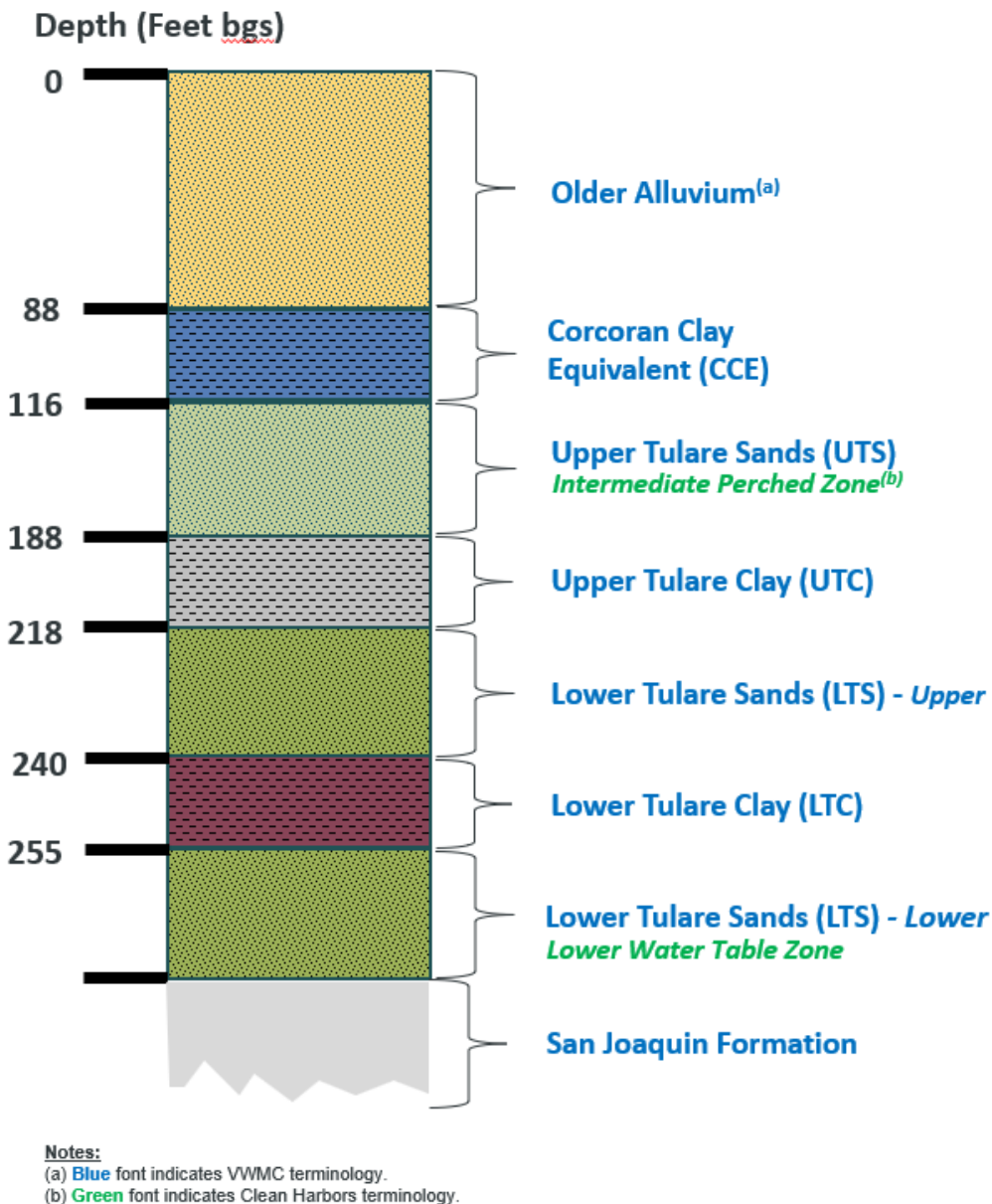


Figure A (included in the VWMC Comment Letter): Stratigraphic Schematic (Not to Scale)

VWMC further stated that Figure 2 in the Draft Staff Report shows the Project Area considered for de-designation and “Alluvium with corresponding groundwater TDS.” VWMC stated the following comments for Figure 2 in the Draft Staff Report, (including Figure B from the VWMC Comment Letter, which shows a VWMC markup of Figure 2 from the Draft Staff Report; Figure B is included below):

- 1) The sample dates shown on Figure 2 are mostly from October/November 2023 except for MW-148I that went dry following the June 2022 sample and MW-

PRL that went dry following the March 2023 result (see VWMC Appendices 2 and 3). More recent results available through mid-2025 should be assessed and presented (see VWMC Appendix 4).

2) Figure 2 shows VWMC's wells in the UTS, VWMC's well (CYM-24R1S) in the Upper Part of the LTS, and three of VWMC's wells (CYM-21D1, CYM-20A1D, and CYM-17J1D) in the Lower Part of the LTS. Figure 2 also shows two of Clean Harbor's wells in the Intermediate Perched Zone (MW-148I and MW-149I) and several of Clean Harbor's wells in the Lower Water Table Zone. The wells in the UTS (or Intermediate Perched Zone) and the wells in the LTS (or Lower Water Table Zone) should not be assessed together as the wells are in different stratigraphic zones (see VWMC Appendices 2 and 3).

3) Figure 2 shows a purple area where no data is provided. However, VWMC has a well pair (CYM-13N2S in the UTS and CYM-13N1D in the LTS) located north of VWMC's McKittrick 1-1 facility. Well CYM-13N2S was added to the markup of Figure 2 below to show the well's location within the "no data" area.

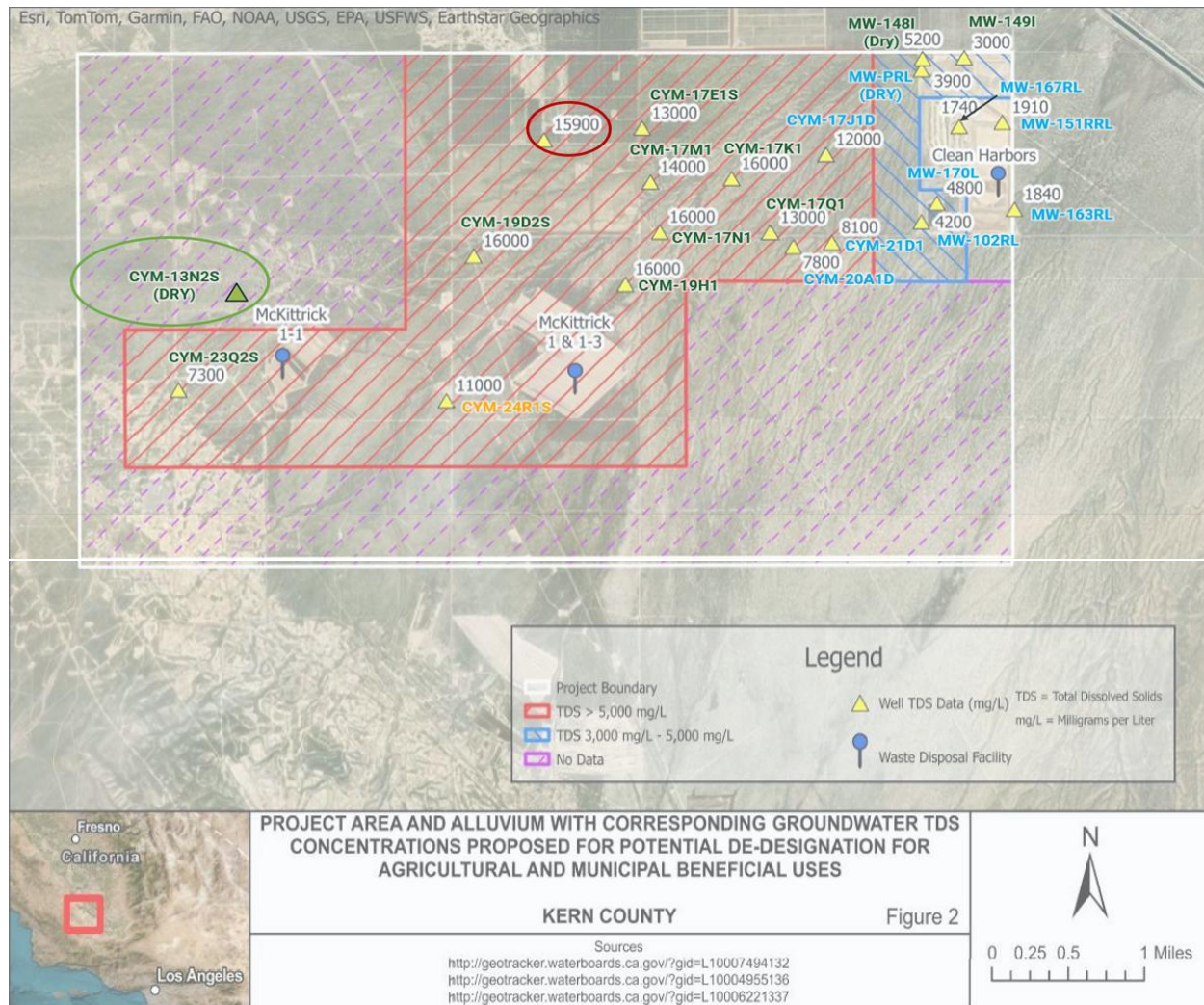


Figure B (included in the VWMC Comment Letter): Markup of Figure 2 – Green well location was added to show VWMC’s CYM-13N2S in the area indicated as “no data.” Red circle indicates a data point that could not be verified.

As VWMC stated in Figure B above, the red circle shown on the Figure 2 markup above indicates a data point that could not be verified with VWMC’s records or other records; the Board must identify the wells and dates of the data used so they can be readily verified.

VWMC stated that Figure 3 in the Draft Staff Report shows the Project Area considered for de-designation and “TDS concentrations for groundwater in the Upper Member of the Tulare Formation.” VWMC stated the following comments for Figure 3 of the Draft Staff Report (including below is Figure C from the VWMC Comment Letter, which shows a VWMC markup of Figure 3 from the Draft Staff Report; Figure C is included below):

1) This map appears to show some of the VWMC and Clean Harbors wells in the Lower Part of the LTS, though several wells in this zone are missing from this map. Wells CYM-20A1D, CYM-21D1, and CYM-17J1D are all in the Lower Part of the LTS and should be included and considered in this analysis (see VWMC Appendix 3).

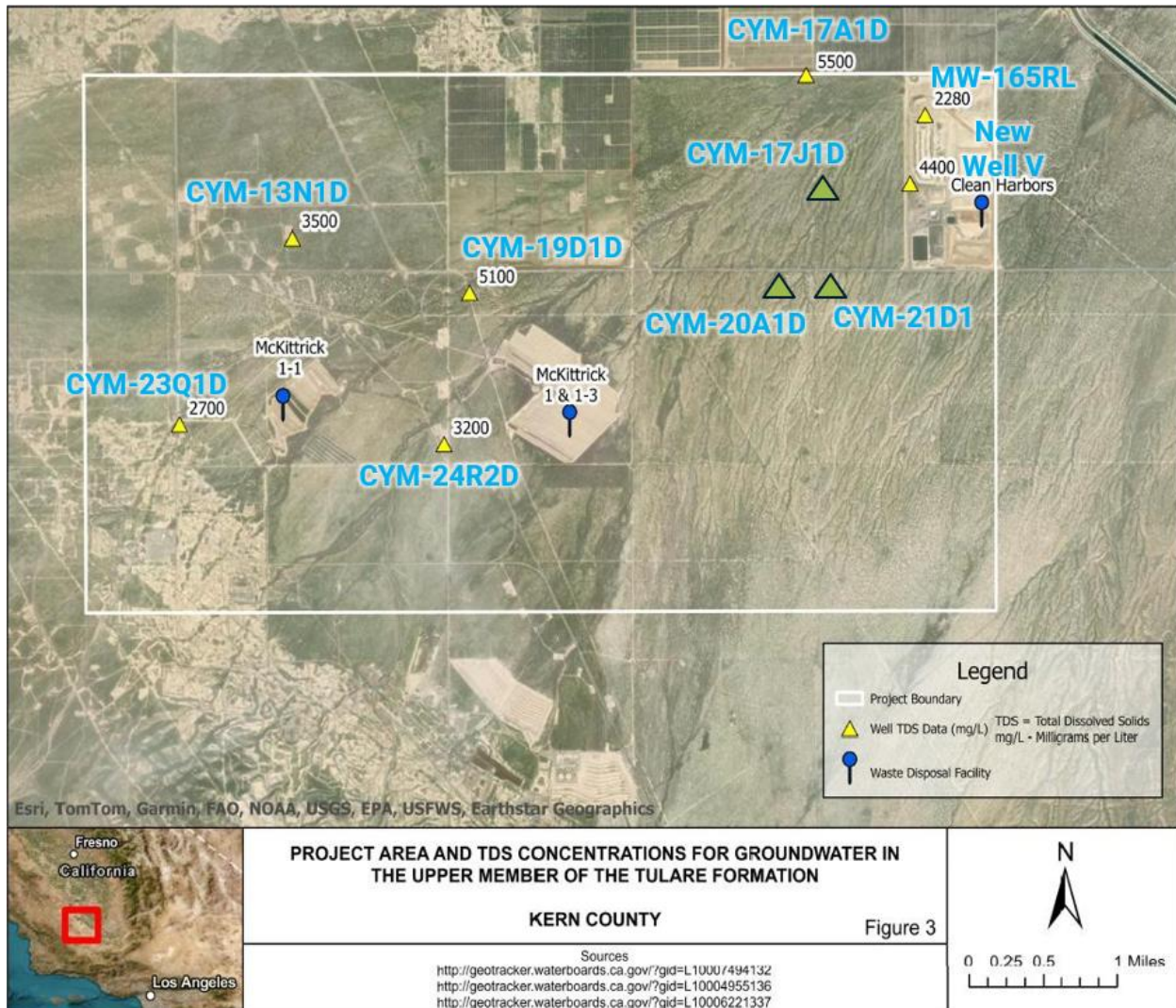


Figure C (included in the VWMC Comment Letter): Markup of Figure 3. Green well locations were added to show approximate locations of VWMC's CYM-20A1D, CYM-21D1, and CYM-17J1D in the lower part of the LTS.

VWMC Comment No. 71 Response:

These comments highlight the difference in geologic interpretation provided by VWMC and the one used by Board staff to evaluate the Project Area. The geologic interpretation used by Board staff is in alignment with interpretations of the Project Area and surrounding region by the USGS and is also consistent with oil and gas operators in

the Project Area region. The USGS interprets the alluvium to be up to 400 feet thick (thickening eastward toward the valley floor) and having a distinct confining layer below it (the CCE). Using the USGS data, the wells that VWMC identified as being “missing from the map” - CYM-20A1D, CYM-21D1, and CYM-17J1D - can be located on the figure in the Draft Staff Report, showing TDS data in the alluvium. Regarding the data point circled in red, this is data from Starrh farms well WW-3, sampled in 2017 by the USGS. The comment does provide one data point not included in the figures presented in the Draft Staff Report- well CYM 13N2S. That well was not included because it does not provide TDS data (or any water quality data) and therefore could not be included in Board staff’s evaluation of de-designation criteria. Please see the Board staff Response to the External Scientific Peer Review document (Appendix E to the Draft Staff Report for McKittrick Basin Plan Amendment – Response to External Peer Review Comments) for more information on Board staff’s interpretation of the geology of the Project Area.

VWMC Comment No. 72:

VWMC Comment Letter Comment X stated that, in conclusion, VWMC supports the de-designation of MUN and AGR in the Project Area and the Project Zone containing both the Alluvium and the Tulare Formation. VWMC further stated that, for the reasons set forth herein, Alternative 3 does not go far enough to de-designate all areas that have no existing MUN or AGR use, and fails to consider all of the de-designation criteria. VWMC additionally stated that the better option is to revise Alternative 2 to include all areas of the Project Area and the underlying groundwater and modify the Draft Staff Report and environmental documents since the comments submitted, facts, and Peer Reviewers’ determinations support these changes.

VWMC Comment No. 72 Response:

The Board appreciates VWMC’s support for the de-designation of MUN and AGR beneficial uses. VWMC’s request to revise the proposed BPA to include de-designation of MUN and AGR beneficial uses throughout the Project Area is noted.