

**APPENDIX A**

**RESPONSE TO PUBLIC COMMENTS ON DRAFT TECHNICAL MEMORANDUM  
"REFINEMENT OF THE PASO ROBLES GROUNDWATER BASIN MODEL AND  
RESULTS OF SUPPLEMENTAL WATER SUPPLY OPTIONS PREDICTIVE ANALYSIS"  
(Dated 20-July-16)**

Comment No.	Item	Comment	Response (GEOSCIENCE)
1	Page 33	The City of Atascadero does not have a subscription to water from the NWP. They do operate the wastewater plant. Change to "AMWC".	Agree. The final report was revised to address this comment.
2	Page 39	Same as Comment No. 1	See response to Comment No. 1
3	Page 40	Same as Comment No. 1	See response to Comment No. 1
4	Page 41	Same as Comment No. 1	See response to Comment No. 1
5	Figure 47	Relocate percolation basin for Alt. 2A from City's existing WWTF basin to AMWC's existing NWP percolation basin (as shown). Add labels to identify the City's basin and AMWC's basin.	Agree. The figure in the final report was revised to address this comment.
6		Please clarify if the pumping by privately owned wells (e.g., wells owned by a golf course) is accounted for in "Commercial/Industrial" or lumped in with "Domestic".	Pumping by a golf course is accounted for in "Commercial/Industrial." A footnote was added to Section 5.4.1 of the final report to address this comment.
7		Please add an Executive Summary.	Agree. An Executive Summary was added to the final report.
8	Page 53	Hypothetical numbers for Nacimiento water are used in several places. It should be made clear that these values are greater than the amount available from the Nacimiento Pipeline Project. This should be made particularly clear in the table on page 53. Otherwise, either use realistic numbers or don't even identify the supply as Nacimiento water.	Agree. The text (and table) in Section 6 (Conclusions) was revised for the final report to indicate the values used exceed actual allocations, but are necessary to model in order to understand how much water is needed to balance the basin by year 2040.
9	Table 5	In Alternative 1 the groundwater storage continues to decline, so the objective of stabilizing the basin is not met. Why is the updated baseline run change in storage value of 30,653 AFY not used?	This alternative only uses reduced agricultural and municipal pumping (i.e., basin outflows) to reverse declining water levels and reach stabilization by year 2040, which is on top of the Updated Baseline. As shown on the BMO and individual hydrographs (see Figures 45-49), this objective was met. As shown in new Table 12, change in groundwater storage varies greatly from year to year, which is a primary factor of large fluxes of inflow terms, not outflow (i.e., pumping). This explanation was added to Section 5.5.2 of the final report.

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10	Table 1	Table 1 uses pumping numbers that do not seem to match the numbers in the City of Paso's Urban Water Management Plan. The UWMP on page ES-2 lists 2,600 AFY in 2020 and 2,610 AFY in 2040 from the basin wells (vs. the river wells). Aren't these basin wells within the Estrella sub-area? Also, how are the private wells within the City accounted for in this analysis (approximately 1,000 AFY)?	(1) Table 1 provides actual municipal pumping for the period 1981-2011 which is based on records of production provided by AMWC, City of Paso Robles, Templeton CSD and San Miguel CSD. The City of Paso Robles' UWMP provides their pumping projections for 2015-2040, which are not the same values as provided in Table 1. (2) Pumping by private wells located within the City limits are accounted for under "Private Domestic" or "Small Commercial."
11		How was 1,508 AFY of Nacimiento water chosen for Alternative 7A? And why wasn't enough offset simulated until the Creston Sub-area was stabilized?	This amount equates to 50% of the agricultural pumping which occurs within the selected area provided by the Paso Basin Supplemental Water Supply Options team. It was assumed direct delivery of NWP to replace 50% pumping was reasonable based on available supplies, required infrastructure and customer participation. Although the results for 7A do not satisfy the BMO criteria, it does provide a significant benefit to the Creston Sub-area (see new Figures 123 and 124). As with other Alternatives, the locations of the BMO target wells are not within the area that is benefitted under Alt. 7A.
12		A BMO well is needed in the El Pomar area (the area analyzed in Alternative 7A) so the ability of this alternative to achieve the BMO can be determined.	Noted, but adding BMO wells is not within the current scope of work.
13	Figure 33 and Others	The predicted average water surface elevations starting in 2012 do not make sense. The blue line is incredibly high in 2012, followed by blue lines which are too short. These figures need to be revised or explained clearly.	Agree. The 2012 value for average change in water levels shown on the composite BMO hydrographs is calculated as the average change of model-generated water levels for 2012 minus the 2011 values based on actual field measured data. The 2012 value shown on the hydrographs spiked because model-generated water levels differ from the measured water levels. This difference is best illustrated on Figures 21-26 of the final report, which the individual water level hydrographs show that water levels generated by the recalibrated Basin Model may differ from the measured values by a few to tens of feet. In order to address this issue and lower the initial 2012 value for model-predicted change in water level, the values for model-generated 2012 water levels were adjusted by using the average of 2011 measured and 2012 model-generated water levels. The adjusted values were then applied to the calculation described above for determining the average change in water level.

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14		The further analysis of potential projects should include Alternative 7A. This alternative meets the criteria of being highly effective and achieves some portion of the BMO for this area.	Noted.
15		Numerous figures which show basin. Highway 229 is labeled on what appears to be Creston Road. This highway does not connect to Paso Robles.	Agree. All figures for the final report was revised to address this comment, as necessary.
16	Page 4	Page 4, second full paragraph. Include the average depth (800 to 1200 ft?) of the Paso Formation, in addition to the maximum depth (exceeds 2,000 ft).	Agree. The final report was revised to address this comment.
17	Page 5	Page 5, last paragraph. Should include mention of the PBAC Computer Model Subcommittee meetings to discuss the model update.	Agree. The final report was revised to address this comment.
18	Page 7	Page 7. Add RW and SWP to the list of acronyms.	Agree. The final report was revised to address this comment.
19	Page 29	Page 29, Table. Clearly point out that several of these scenarios involve water that is not available. Alternative 7a needs a better explanation of the restrictions, since 1,500 AFY is not the projected allocation of Nacimiento water. Another approach would be to use the maximum Nacimiento water available and make up the difference with pumping reduction.	See response to Comment No. 11.
20	Page 31	Page 31, second bullet. Change from "irrigation" to "water".	Agree. The final report was revised to address this comment.
21	Page 31	Page 31, first full paragraph. Where in the preceding discussions were the projected annual volumes of each supplemental water source summarized?	This reference to "preceding" was made in error, since the volumes of supply waters are discuss in the following sections. Therefore, the word "preceding" was replaced with "following" as needed for the final report.
22	Page 32	Page 32, first partial paragraph. The future forecasts for vineyard coverage were developed by ag members of the PBAC subcommittee in conjunction with the Ag Department.	Agree. The final report was revised to address this comment.
23	Page 32	Page 32, first full paragraph. Correction: "regarding the use of somewhat older . . . ". Add "and the 2017 projections" after "through November 2015". Corrections: "however, since vineyard plantings will be water neutral until 2020, . . ."	Agree. The final report was revised to address this comment.

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24	Page 33	Page 33, last paragraph. Note that the 16,436 AFY from Nacimiento is hypothetical only, since that much water is not available from the Nacimiento project.	Agree. The final report was revised to address this comment.
25	Page 37	Page 37, first paragraph. There is no discussion about the results of the iterative process to determine whether the maximum benefit is achieved by reducing water demand uniformly or only in certain areas.	A discussion was provided in Section 5.4.2 of the final report.
26	Page 38	Page 38, first paragraph, end of paragraph. Layers 3 and 4 (vs. 4 and 5)?	Agree. The final report was revised to address this comment.
27	Page 44	Page 44, second to last paragraph. Correction: Alternative 5 (remove "s").	Agree. In order to address this observation, recharge for Alternative 5 was expanded to include 5A2 and 5B2.
28	Page 45	Page 45, first paragraph. Correction: "composite BMO is met . . .". Also, water level declines are very severe in the area. However, this area may not have the greatest water level declines. Some areas are worse.	Agree. The final report was revised to address this comment.
29	Page 46	Page 46, first paragraph. Correction: "composite BMOs is met . . ."	Agree. The final report was revised to address this comment.
30	Page 47	Page 47, last paragraph. Instead of a benefit, the water level decreases appear to be a concern.	Agree, however, this alternative was revised and updated for the final report.
31	Page 50	Page 50, top of page. Why is 50% a maximum offsetting percentage?	See response to Comment No. 11.
32		Figures which show the removal of recycled water from the Salinas are not consistent. Some show the decrease (red) in water levels along the Salinas and others do not.	Agree. Upon further review, it was determined the range for change in groundwater elevation was not set low enough. All figures was revised for the final report.
33	Page 21	Add a table or figure to show how hydraulic conductivity values used for the model recalibration changed the predictive results.	In order to quantify the changes to the predictive results, it would require a separate model run using the updated model and hydraulic conductivity values used previously. We feel that since the values used for the current recalibrated model were approved by the technical review team that providing the differences is not informative.
34	Figure 33	Why is the predicted average water surface elevations starting in 2012 have such a large jump compared to previous measured years and following predicted years?	See response to Comment No. 13.
35		Identify periods of Actual and Model-Predicted annual values for all BMO hydrographs (e.g., Figures 33-37).	Agree. Horizontal arrow bars was added to all BMO hydrographs for the final report.

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36	Figures 31 and 33-37	What is the reason the BMO hydrographs (Figures 33-37) do not match the huge dip in change in storage shown to occur during the early 1990s on Figure 31?	The composite BMO hydrographs show cumulative departure decreases by approximately 15 to 65 ft within the Estrella, Creston, Shandon and San Juan Sub-areas during the period 1986-1990. Also, comparing the BMO hydrographs with the cumulative change in storage chart (Figure 31) is complicated because the figure provides the change in storage for the entire basin and aquifer system. The composite BMO hydrographs only reflect average groundwater conditions at specific locations and within individual aquifers, which may or may not be under declining storage conditions.

**Note:** Comments 33 through 36 were provided during the Paso Basin Model Public Meeting held at the Templeton Community Center on 21-Jul-16.

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