

June 4, 2015

Mr. Arden Wallum
General Manager
Mission Springs Water District
66575 Second Street
Desert Hot Springs, CA 92240

Dear Mr. Wallum:

Thank you for your letter and participation in the Coachella Valley Salt and Nutrient Management Planning process. This letter is in response to your comment letter, dated May 18, 2015, regarding the Coachella Valley Salt and Nutrient Management Plan (SNMP), Draft SNMP.

The Coachella Valley Water District (CVWD), Coachella Water Authority (CWA), Desert Water Authority (DWA), and Indio Water Authority (IWA) are finalizing the preparation of the SNMP for the Technical Group for the Whitewater (Indio), Mission Creek, Garnet Hill, and Desert Hot Springs Groundwater Subbasins. The SNMP is being prepared in response to the requirements of the California Recycled Water Policy. The Technical Group and their consultant, MWH, have reviewed and responded to your comments, as well as modified the SNMP to reflect your comments where appropriate. Listed below is a summary of each of your comments and the Technical Group's response. Also attached is the Stakeholder Response to Comment Table that contains all stakeholder comments and their appropriate responses. Some responses to your comments may refer to other stakeholder comment responses in this table.

Comment No.1: General

If it is the intent of Coachella Valley Water District (CVWD), Desert Water Agency (DWA), and Indio Water Authority (IWA) to utilize this SNMP to facilitate serving recycled water, Mission Springs Water District (MSWD) does not object. If however, it is the intent of CVWD, DWA, and IWA to incorporate these SNMP recommendations into the Colorado River Basin, Basin Plan, MSWD objects.

The approach used to determine Ambient Water Quality (AWQ) that was presented in Technical Memorandum No.1 (TM 1), Technical Memorandum No. 2 (TM 2) and in the Draft SNMP Report is, and as also advised by the Regional Water Quality Control Board (RWQCB) in its November 5, 2014 letter to CVWD, "scientifically flawed". The Mission Creek Management Zone (MCMZ) is too complex and heterogeneous to be treated as a single entity. The MCMZ should be further characterized and divided into subzones and managed on a smaller scale with AWQ concentrations and assimilative capacities assigned to each subzone.

The study fails to discuss effects of the ongoing drought and climate change. Does the drought have an impact on this analysis? Climate change has the potential to affect the reliability of both local and imported water supplies. These impacts should be addressed at length in the plan.

In general, the draft SNMP sets up a system to authorize, even encourage, impairment of the waters of the State using a method of analysis that virtually lumps the waters of the Coachella

Valley into one basin from a targets and projects perspective; it in fact represents a Degradation Policy rather than an Anti-Degradation Policy.

Response to Comment No.1: As discussed in Section 1 of the SNMP, the document was prepared in response to the Recycled Water Policy. The plan cannot assert a Basin Plan Amendment will be prepared by the RWQCB. Several meetings have been conducted with the RWQCB and they have made no public determination if a Basin Plan Amendment will be prepared. The SNMP is intended to support ongoing irrigation with recycled water, which is already permitted by the RWQCB.

Discussion on Mission Creek Management Zone AWQ methods is discussed at length in TM-2 using widely accepted scientific tests and methods. Due to limited data, the area of AWQ calculation was reduced, this is a revision between TM-1 and TM-2 based on comments and additional data analysis.

All management zones pose some geologic complexity, yet the State requires calculation of the AWQ.

The RWQCB November 5, 2014 letter was retracted.

Drought and climate change impacts water use, availability, and sources of water. These are addressed in respective water management plans, the basis of which are used directly in SNMP loading assumptions. The purpose of using recycled water as an alternate source of water is in large part due to drought and the goal to diversify water resources into more sustainable/secure sources.

Recycled Water Policy encourages the use of recycled water and understanding the effects of using this source basin-wide; it prescribes a percentage of assimilative capacity acceptable for projects to use consistent with maximum benefit of the people of the State.

Comment No.2: Section 3.1, Regional Water Quality Objectives

The draft plan indicates that the Colorado River Basin, Basin Plan (BP) establishes Water Quality Objective (WQO) for nitrate is 45 mg/l and that the WQO for TDS should be 1,000 mg/l. The BP does not specify numeric groundwater objectives. It indicates that establishment of numerical objectives for groundwater involves complex considerations since the quality of groundwater varies significantly with depth and of well perforations, existing water levels, geology, hydrology and several other factors. Unavailability of adequate historical data compounds the problem. The RWQCB requires that a detailed investigation of groundwater basin be conducted before establishing specific groundwater quality objectives.

The selection of the secondary maximum contaminant level (MCL) for TDS is further challenged by the draft report itself; the draft report indicates that a protective TDS concentration of 797 mg/l has been established for Lake Havasu. The draft report does not explain why a greater WQO is recommended. MSWD objects to use of the MCL as the WQO for the MCMZ and recommends that WQOs be established based on a comprehensive analysis as recommended in the BP.

Response to Comment No.2: *Please see the Response to Comment No. 6 in the Stakeholder Response to Comment Table.*

Comment No.3: Section 4.2.2, Groundwater Level

The draft report is misleading at best. Groundwater pumping in the MCMZ is about 4,000 AFY greater than estimated natural recharge and current artificial recharge activities. In addition, greater quantities of imported water supplies will be needed to accommodate growth. Additional supplies may be acquired by purchase of additional Table A allocations or by transfers and exchanges. To maintain current groundwater levels, acquisition and recharge of greater quantities of imported water will be necessary. The imported water will convey greater volumes of salts and nutrients than the amounts indicated in the draft report to the MCMZ.

Response to Comment No.3: *Comment noted. This specific table does not address years when there is no advanced deliveries of water; further, return flows comprise a significant component of the balance. Please see response to Comment No. 4 in the Stakeholder Response to Comment Table for how the water budgets are being addressed. Note that Table A water, transfers, and or exchanges are not certain.*

Water budgets have been provided for future recharge. These recharge values were derived in conjunction with MSWD in the development of the basin (MCMZ) water management plan. The water management plan water budget is the basis for salt and nutrient loading. Therefore, the most current published projections for water supply increases have been considered where determining water quality.

Please see the response to Comment No. 3 in the Stakeholder Response to Comment Table for the intent of these tables.

Comment No.4: Section 5.3, Water Quality Analysis Methods

The draft plan appears to indicate that a single AWQ for MCMZ is inappropriate; however, it justifies its use by referencing a number of other jurisdictions that used a single average value for AWQ. The fact that others have used single AWQ does not justify its use in the Coachella Valley. Again, MCMZ is too complex and heterogeneous to be treated as a single entity. In addition, to produce a single AWQ applied throughout the entire vertical and horizontal expanse is far too simplistic to be considered a realistic representation of AWQ conditions.

By conducting the AWQ analysis with data collected from throughout a MZ, from the water table over 1,000 feet in depth, the resulting AWQ is averaged and a larger assimilative capacity is erroneously determined.

Response to Comment No.4: *The use of a single AWQ value is assumed in the Recycled Water Policy. There is uncertainty in this analysis, as noted in the Salt and Nutrient Management Plan. See Response to Comment No. 4 in the Stakeholder Response to Comment Table for areas of uncertainty that are now discussed. Please see Response to Comment No. 7 and No.4 in the Stakeholder Response to Comment Table regarding use of a single value for the AWQ.*

Comment No.5: Section 5.3.1, Groundwater Models

Groundwater modeling, as presented in the draft report, was not used as suggested by MSWD in

its comments to TM 1 and TM 2. Again, modeling is vital to develop an effective SNMP. It will assist in determining the effects of the imported water recharge at the Mission Creek Recharge Facility on the MCMZ and other MZs. The Coachella Valley is comprised of a number of complicated subbasins connected with fault systems. Modeling is a key component to determine water quality impacts of various sources and use of a model would help prevent oversight of impacts in critical areas throughout the Coachella Valley.

By using models for “quantifying the vertical and horizontal extent of the groundwater systems and to provide a vertical and horizontal grid system” leaves SNMP without the benefits of real modeling. Not only is the instantaneous mixing concept inaccurate but the error is compounded with each iteration of the future degradation models. A leaching model that treats each source in a manner appropriate to the source and that calculates an input salt and nutrient concentration for use in a calibrated numerical groundwater flow model would provide better management tools for managing groundwater resources.

Response to Comment No.5: MSWD made a comment on the Draft TM-1 regarding groundwater modeling, this comment was addressed in a letter and an attachment to TM-1.

Numerical modeling would allow for incorporation of a comprehensive data history, although at significant cost and impact to project schedule. The Integrated Regional Water Resources Planning Group, for which the MSWD was a part of, evaluated this issue and determined it was not feasible. For determination of the AWQ, a numerical model is used to leverage information on aquifer layer and hydraulic properties. A numerical model for planning would need transient calibration; this would pose more significant data adequacy problems than currently exist. Dynamic or long-term project evaluation with a numerical model would be useful, although not required. Non numerical modeling/methods have been used successfully for SNMPs throughout the State. Using a model for the AWQ will provide the same result as the volume weighted method. The spreadsheet model developed for planning purposes can be conservative and has been useful throughout the State. It is also important to note that this plan is likely a living document. As models are updated and calibrated they can be incorporated.

Section 6.5 has been added to include recommendations for consideration to improve the salt/nutrient loading model.

Comment No.6: Section 5.3.4, Ambient Water Quality Methods for Each Management Zone
The draft plan indicates that attempts were made to review MCMZ in layers and horizontal extents of AWQ but due to insufficient data, efforts were abandoned. MSWD reiterates that the data gaps encountered by MWH are so significant that water quality management conclusions cannot be reached.

Response to Comment No.6: TM-2 describes the analysis conducted to evaluate AWQ using the volume-weighted method for Mission Creek MZ, and AWQ is determined based on the recommendations out of that analysis. To complete the analysis and not be limited by data gaps, the areas of the data gaps were removed from the analysis and the area was reduced. This was based on comments from stakeholders.

Comment No.7: Section 5.4.3, Mission Creek Management Zone

As advised in previous comments, AWQ for TDS and nitrate are incorrect. MSWD is already encountering greater levels of constituents than those suggested in Table 5-9. For Well 34, near the Mission Creek Recharge Facilities, has TDS concentrations have increased from 450 mg/l in March of '08 to 540 mg/l in June of '11 to 650 mg/l in July of '14. This concentration increase rate is alarming to MSWD.

As you are well aware, the primary contributors of TDS to groundwater are septage from waste disposal, saline subsurface flow from Desert Hot Springs subbasin, imported water recharged at the Mission Creek Spreading Facility, and percolation of treated wastewater. MSWD has and/or will successfully complete \$39 million of sewer conversion improvements. MSWD continues to pursue funding opportunities to fully mitigate all onsite disposal systems in its service area effectively managing septage.

Wastewater effluent is currently being treated in compliance with MSWD's Waste Discharge Permit (WDR) requirements.

Regarding saline subsurface flow from the Desert Hot Springs subbasin and imported Colorado River water, SNMP has identified these sources of potential groundwater quality degradation; however, it does not specify measures required to effectively manage them to prevent long term degradation. Degradation due to saline increases will be detrimental to the water supply and the region's economic foundation-water.

Therefore, imported water and its TDS concentrations are the greatest issues related to water quality degradation in the MCMZ. Imported water is the principal source of supplemental water supply and the need for additional imported water is expected to increase in the future.

Regarding nitrate concentrations, **the draft plan indicates that onsite disposal system remediation is not needed.** Since nitrate contamination is a critical impact to long term water quality, MSWD has invested millions into its program. The draft report is suggesting that this program is not needed. Please reevaluate nitrate concentration presented.

Response to Comment No.7: As the AWQ is a volume weighted average for a portion of the Mission Creek Management Zone, it is very likely that constituent concentrations differ from the calculated ambient water quality. Trend analyses completed in the Mission Creek Management Zone are consistent with the comment, some wells have an increasing concentration for TDS and Nitrate over their data record. The ambient water quality for the Mission Creek Management Zone have been updated to include additional data that was identified in the vicinity of the area of artificial recharge. Please see Section 5.4.3 for the revised results.

MSWD is completing considerable conversion projects converting septic systems to sewer or wastewater collection. Septic to Sewer Conversion or Enhanced Septic is addressed in Section 7 of the SNMP.

Regarding subsurface flow from the Desert Hot Springs subbasin and imported Colorado River water, correct, no management strategy is recommended for these salt sources. Natural underflow is a natural condition that, at this time is not economically feasible to address these flows.

Regarding imported Colorado River water, this source of salt is addressed in Section 4, Section 6, and Section 7. It is a primary source of salt. Section 7.2.2 Source Water Quality

Management, address strategies for improving Colorado River imported water quality. These range from River salinity control programs, desalination, to reduction in supply and incorporating water from the State Water Project.

The comment portion regarding "onsite disposal system remediation is not needed" does not appear to be related to the SNMP. This reference cannot be found.

Comment No.8: Section 5.6.2, Vertical Water Quality

The analysis fails to mention the monitoring well located near the Mission Creek Recharge Facilities and its water quality testing results. Discussion should be added to the draft report.

***Response to Comment No.8:** Additional discussion on this well has been included within Section 5 and Section 8. This well was also added to appropriate figures.*

Comment No.9: Section 6.1.1, Inflows, Artificial Recharge

Apparently, "CVWD is participating in the East Branch Enlargement to provide the capacity to obtain additional water from the SWP when it is available." Please provide greater detail on these efforts and how these efforts are consistent with the Direct State Water Project Delivery section presented on page 7-4. Define quantities and quality of water currently available for use together with the expected increases, if any, by 2045.

***Response to Comment No.9:** This is not currently a planned management strategy and as such has not been evaluated in the SNMP.*

Comment No.10: Section 6.1.3, Water Budget by Management Zone

Table 6-6, Mission Creek Management Zone – 2013 Water Budget indicates that a surplus of water occurred in 2013. However, it does not indicate that the surplus is an anomaly having been achieved due to advanced deliveries. Groundwater pumping in the MCMZ is about 4,000 AFY greater than estimated natural recharge and current artificial recharge activities. The water budget presented should be revised to reflect typical water budget conditions.

***Response to Comment No.10:** Please see response to comments no. 3 and no. 16 in the Stakeholder Response to Comment Table.*

Comment No.11: Section 7, Management Strategies

The draft report indicates that significant annual increase in TDS and nitrates are and will continue to occur, yet findings support that the basin water quality is remaining within the WQOs for the constituents of concern and therefore "corrective measures are not needed". This causes great concern to MSWD. First, WQOs are not defined in the BP; the analysis has elected to use MCLs as WQOs. Secondly, the analysis clearly indicates that current operations will continue to degrade water quality in the basin **failing to comply with the State's Anti-Degradation Policy**. MSWD, in its previous comments, requested that the SNMP include an evaluation of a no degradation option and associated costs to confirm that the recommended program will maintain the highest water quality **which is reasonable while considering all demands being made**. A strict non-degradation option may be the appropriate option for the Coachella Valley.

Response to Comment No.11: Please see response to comment no. 6 in the Stakeholder Response to Comment Table regarding a numerical WQO for TDS.

An antidegradation analysis is presented in Section 6.4. The average concentrations of TDS and nitrate (as NO₃) in the West Whitewater River, East Whitewater River, and Mission Creek MZs do not currently exceed Basin Plan WQOs. Based on the currently planned recycled water projects, a significant change in water quality that is inconsistent with the Basin Plan WQOs is not anticipated in the next 30-year water management planning period.

The Recycled Water Policy states that a recycled water project that utilizes less than 10 percent of the available assimilative capacity in a basin/sub-basin (or multiple projects utilizing less than 20 percent of the available assimilative capacity in a basin/sub-basin) need only conduct an antidegradation analysis verifying the use of the assimilative capacity. In no case do recycled water projects exceed 10 percent of the assimilative capacity.

Comment No.12: Section 7.2.2, Source Water Quality Management, Desalination of Colorado River Water

Apparently, CVWD has completed a pilot study for treating Colorado River Water. MSWD requests a copy of the study to review its conclusion and recommendations.

Response to Comment No.12: Comment noted.

Comment No.13: Section 8.4, Data Gaps

As indicated, data gaps limit the ability to adequately characterize groundwater quality. Therefore, conclusions presented in the draft plan are not sufficiently supported by historic data. These data gaps must be addressed prior to any consideration of report recommendations being included in a Basin Plan Amendment.

Response to Comment No.13: *As indicated within the SNMP, there are limitations in certainty given the data resolution. Per the Recycled Water Policy, the plan was completed and identifies data to be collected to improve the resolution of the results. Given the large size of the area, data gaps and resolution will always be a limitation that must be addressed in water quality analyses in the area.*

Comment No.14: Closing

MSWD's comments to TM 1 and 2 have largely been ignored. Our role as a Stakeholder, rather than a project managing partner, has proven to be ineffective. If MSWD's comments continue to be ignored, MSWD may elect to prepare its own more detailed SNMP to properly manage recycled and imported water in the MCMZ rather than be subject to the generic SNMP proposed for the entire valley.

Response to Comment No.14: *Comment noted. It is unfortunate that MSWD feels their comments have not been addressed. The SNMP preparers have responded to MSWD comments in meetings, in writing via response to comments posted, and letters. Response to comments are posted at www.cvwd.com/snmp.*

Comments from stakeholders have changed the SNMP, for example methods to calculate water quality were revised from TM-1 to TM-2 based on requests for additional analysis. Based on MSWD comments, the area of AWQ calculation was reduced to address areas of water supply wells and more dense data availability.

Again, the SNMP Technical Group would like to thank you and your agency for your letter and participation in the Coachella Valley Salt and Nutrient Management Planning process. Stakeholder participation is integral to the success of the SNMP. If you have any other comments please feel free to call or email Ms. Patti Reyes, PE, the Technical Group's point of contact at (760) 398-2661, ext. 2270 or PReyes@cvwd.org.

Sincerely,

The Salt and Nutrient Management Plan Technical Group