State of California
Regional Water Quality Control Board
Santa Ana Region

Staff Report

October 16, 2020

Item: 11

Subject: Basin Plan Amendment to Incorporate Antidegradation Objectives and Salt and Nutrient Management Plan for the Upper Temescal Valley Groundwater Management Zone, Resolution 2020-0038

Executive Summary

The federal Clean Water Act requires states to implement pollution control standards for wastewater discharges and water quality standards for all surface waterbodies within the state's jurisdiction. Each state must set surface water quality standards comprised of three components: 1) beneficial uses for the waterbody; 2) water quality criteria to protect the beneficial uses of the respective waterbody; and 3) antidegradation requirements to maintain and protect the integrity of the waterbody. In California, the Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) sets similar requirements to the federal water quality standards for surface water and groundwater. The Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) establishes beneficial uses and water quality objectives in the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan).

In 2004, the Santa Ana Water Board amended the Basin Plan, in part, to incorporate revised: groundwater management zone (GMZ) boundaries, beneficial use designations, total dissolved solids (TDS) and nitrate groundwater quality objectives, and an associated salt and nutrient management implementation plan. Revised groundwater TDS and nitrate objectives were adopted only for GMZs where sufficient spatial and temporal historical data existed to define aquifer storage properties and compute ambient water quality for the antidegradation time period of 1954-1973. For GMZs that lacked sufficient data, the Santa Ana Water Board determined that water quality objectives would be established on a case-by-case basis when it becomes necessary to do so. There was insufficient data to establish objectives for the following GMZs: Bedford, Lee Lake, La Habra, Santiago, and Warm Springs Valley.

Santa Ana Water Board staff determined that it was necessary to establish groundwater antidegradation objectives for the Bedford, Lee Lake, and Warm Springs Valley GMZs within the Upper Temescal Valley watershed in order to continue to permit recycled water discharge and reuse activities that impact these GMZs. More specifically, Santa Ana Water Board staff required the Elsinore Valley Municipal Water District and the Eastern Municipal Water District to prepare a Salt and Nutrient Management Plan (SNMP) to support their recycled water discharge and reuse activities in the Upper Temescal Valley. The objectives of the SNMP were to develop and apply a technical methodology to establish antidegradation objectives and compute current and projected future ambient water quality, identify the current and future regulatory compliance challenges that arise from the implementation of recycled water discharge and reuse plans, and define an SNMP that addresses current and future TDS and nitrate challenges, including a monitoring and reporting plan.

The purpose of the Basin Plan amendment described in this Staff Report is to establish TDS and nitrate antidegradation objectives for the groundwater resources in the Upper Temescal Valley Watershed, specifically to:

- Amend Tables 3-1 and 4-1 of the Basin Plan to remove the Bedford, Lee Lake, Warm Springs Valley GMZs and replace them with the Upper Temescal Valley GMZ.
- Establish beneficial uses and TDS and nitrate antidegradation objectives for the Upper Temescal Valley GMZ.
- Incorporate the Upper Temescal Valley SNMP into *Chapter 5 – Implementation*

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1. Introduction and Background

The federal Clean Water Act requires states to implement pollution control standards for wastewater discharges and water quality standards for all surface waterbodies within the state's jurisdiction. Each state must set surface water quality standards comprised of three components: 1) beneficial uses for the waterbody; 2) water quality criteria to protect the beneficial uses of the respective waterbody; and 3) antidegradation requirements to maintain and protect the integrity of the waterbody.[1]

In California, the Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) sets similar requirements to the federal water quality standards for surface water and groundwater. The state's water quality standards are regulated by the nine Regional Water Quality Control Boards. Each Regional Board identifies waterbodies within its jurisdiction, determines beneficial uses, and establishes water quality criteria or objectives for each waterbody in the Basin Plan. The federal Clean Water Act and the state's Porter-Cologne Water Quality Control Act mandate the Regional Boards to review and update, as appropriate, their Basin Plans every three years to ensure that the water quality standards are established using the latest and best available science and data.

The Santa Ana Regional Water Quality Control Board (hereafter, Santa Ana Water Board) establishes beneficial uses and water quality objectives for the waterbodies of the Santa Ana River Basin (hereafter, the Basin) in the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan).

2004 Basin Plan Amendment to Revise the Salt and Nutrient Management Plan for the Basin

The 1995 Basin Plan contained nitrate-nitrogen (hereafter, nitrate) and Total Dissolved Solids (TDS) objectives that were lower than the ambient nitrate and TDS concentrations over a significant portion of the Basin, which meant no assimilative capacity existed for the Basin. Several watershed stakeholders questioned the validity of the groundwater quality objectives for TDS and nitrate and the Santa Ana Water Board's salt and nutrient management plan that implemented those objectives. Specifically, since wastewaters are high in TDS and nitrate, in part due to high TDS and nitrate concentrations in the source water, the 1995 Basin Plan objectives restricted the use of reclaimed wastewater (hereafter, recycled water), which comprised a major component of many water agencies' plans to conserve potable water and meet rapidly growing water demands and populations. Watershed stakeholders voiced these concerns during the 1995 update of the Basin Plan and the Santa Ana Water Board agreed to prioritize the review of the objectives as part of its triennial review process.

A coalition of 22 water supply and wastewater agencies in the Santa Ana Watershed formed the Nitrogen-Total Dissolved Solids Task Force (now called the Basin

[1] 40 Code of Federal Regulations (CFR) 131

Monitoring Program Task Force, hereafter, the Task Force) to devise a new TDS and nitrate management plan for the Basin, specifically to conduct scientific studies regarding the TDS and nitrate objectives and other components of the TDS and nitrate management plan. The Task Force contracted with two consulting firms to guide the process. Wildermuth Environmental, Inc. (WEI) was responsible for performing and documenting the technical analyses and Risk Sciences was responsible for facilitating the regulatory review and developing consensus among the Task Force participants. The technical work was documented in *TIN/TDS Study – Phase 2A Development of Groundwater Management Zones – Estimation of Historical and Current TDS and Nitrogen Concentrations in Groundwater* (WEI, 2000) and *TIN/TDS Study – Phase 2B Santa Ana Watershed Wasteload Allocation Investigation* (WEI, 2002). The Task Force's work culminated in the Santa Ana Water Board's adoption of the Basin Plan amendments on January 2004 (Santa Ana Water Board, 2004) which included revised:

- groundwater subbasin boundaries (now termed "groundwater management zones" or GMZs), based on the hydrology of the groundwater basins;
- TDS and nitrate objectives for the GMZs;
- TDS and nitrate wasteload allocations for wastewater discharges to the Santa Ana River and its tributaries;
- surface water reach designations for selected waterbodies in the Santa Ana River;
- TDS and nitrate objectives and beneficial uses for specific surface waterbodies; and
- implementation plans, including monitoring and reporting programs and standard analytical methodologies for periodically evaluating compliance with the new water quality objectives.

The above-mentioned amendments to the TDS and nitrate concentration objectives for groundwater were adopted only for GMZs where sufficient spatial and temporal historical data existed to define aquifer storage properties and compute antidegradation water quality objectives. For GMZs that lacked sufficient data, the Santa Ana Water Board determined that water quality objectives would be established on a case-by-case basis when it becomes necessary to do so. There was insufficient data to establish objectives for the following GMZs: Bedford, Lee Lake, La Habra, Santiago, and Warm Springs Valley.

Regulatory Problem Statement

The Elsinore Valley Municipal Water District (Elsinore Valley) and the Eastern Municipal Water District (Eastern) discharge and/or reuse recycled water in the Upper Temescal Valley watershed pursuant to waste discharge requirements issued by the Santa Ana Water Board. Both agencies were issued mandatory minimum penalties for discharging recycled water to Temescal Wash in excess of the discharge limitations established for their respective waste discharge requirements.

Elsinore Valley. Elsinore Valley's Regional Water Reclamation Facility (Regional WRF) discharges recycled water to Lake Elsinore in the Elsinore Basin and to the Temescal Wash in the Upper Temescal Valley watershed. In 2011, the Santa Ana Water Board assessed mandatory penalties to Elsinore Valley for discharging recycled water to the Temescal Wash from the Regional WRF with TDS concentrations in excess of the permitted discharge limit of 700 milligrams per liter (mg/L) as established in the then-current permit, R8-2005-0003. As part of the process to renew the discharge permit, the Santa Ana Water Board required Elsinore Valley to:

(1) quantify the impact of its recycled water discharges in excess of the discharge limit on the water quality of Reach 2 of the Santa Ana River and the underlying GMZs of Bedford, Lee Lake, and Warm Springs; and

(2) propose a mitigation program to offset the mass of TDS discharged to the Temescal Wash in excess of the discharge limitation.

Elsinore Valley submitted a draft offset plan to the Santa Ana Water Board on October 30, 2012 (MWH, 2012). The following are some of the key conclusions of the draft report:

- The total offset required for recycled water discharges to the Temescal Wash with TDS concentrations in excess of 700 mg/L between 2005 and 2011 is 446.5 tons of TDS.
- Recycled water discharges in excess of 700 mg/L resulted in no impact to the TDS concentration of the Santa Ana River at Below Prado Dam, as modeled by the wasteload allocation model (WLAM).
- The impact of recycled water discharges in excess of 700 mg/L on the water quality of the Warm Springs, Lee Lake, and Bedford GMZs could not be determined due to insufficient data: there are no historical or current ambient water quality concentrations for these GMZs to compare to the recycled water discharge concentrations or to evaluate impacts.
- There are no cost-effective, beneficial mitigation facilities to remove 446.5 tons of TDS from the Warm Springs, Lee Lake, and Bedford GMZs.

Eastern. Eastern owns and operates four active regional water reclamation facilities (RWRFs) for the treatment of wastewater generated in its service area: the San Jacinto Valley RWRF, the Moreno Valley RWRF, the Perris Valley RWRF, and the Temecula Valley RWRF. Recycled water from the RWRFs is reused in Eastern's service area for a variety of non-potable uses, including agriculture, landscape irrigation, and industrial use. During peak outdoor water demand months (the warmer summer months), when recycled water demand exceeds recycled water production, recycled water production is supplemented from storage facilities. During the cooler, wetter times of year when recycled water demands decrease, surplus recycled water is stored in recycled water storage ponds, either on-site at the RWRFs or off-site throughout Eastern's service area. When the volume of recycled water generated is in excess of Eastern's recycled

water demand and storage capacity, recycled water is conveyed via pipeline to the Upper Temescal Valley and discharged to the Temescal Wash. The discharge to the Temescal Wash is typically a blend of recycled water from multiple RWRFs. From 2008 to 2013, Eastern discharged recycled water to Temescal Wash with TDS concentrations in excess of the discharge limit of 650 mg/L, as established in the then-current permit R8-2009-0014. Eastern requested that the Santa Ana Water Board increase the TDS limitation for its discharges to Temescal Wash. To support this request, the Santa Ana Water Board requested Eastern to evaluate the impact of its recycled water discharges on Reach 2 of the Sana Ana River for:

(1) historical recycled water discharges in excess of the discharge limit and

(2) future recycled water discharges at increased TDS limits.

The results indicated that the historical recycled water discharges in excess of the discharge limits had no measurable impact to the TDS concentrations of Reach 2 (WEI, 2013). As was the case with the Elsinore Valley study, due to insufficient data, the impact of Eastern's recycled water discharges on the Bedford, Lee Lake, and Warm Spring GMZs could not be determined.

Proposed Regulatory Solution

Given that the engineering work performed by Elsinore Valley indicated that there were no cost-effective, beneficial mitigation facilities to mitigate the small historic and projected future salt liabilities that would accrue due to occasional discharges of recycled water that exceed permit limitations, Elsinore Valley and Eastern contracted with WEI to develop an alternative regulatory compliance strategy that would resolve their historic TDS liabilities and ensure the long-term protection of the beneficial uses of surface and groundwater in the Upper Temescal Valley. The regulatory strategy included a plan to:

(1) develop, apply, and document an alternative methodology to compute historical ambient TDS and nitrate concentrations for the Upper Temescal Valley GMZ, including recommendations for defining the Basin Plan antidegradation objectives for TDS and nitrate;

(2) modify as appropriate, apply, and document the alternative methodology to estimate current ambient TDS and nitrate concentrations for the Upper Temescal Valley GMZ;

(3) apply and document the alternative methodology to project future ambient TDS and nitrate concentrations in the Upper Temescal Valley GMZ, based on the range of possible recycled water discharge and reuse plans in the watershed;

(4) identify the regulatory compliance challenges that arise from the implementation of recycled water discharge and reuse plans; and

(5) define a salt and nutrient management plan that addresses current and future TDS and nitrate challenges, including a monitoring and reporting plan.

The development of the salt and nutrient management plan would serve as a salt offset for the historical Elsinore Valley and Eastern exceedances of their discharge limitations (through completion of the study) and the SNMP implementation plan would include actions to address future exceedances.

In a letter dated July 23, 2013 the Executive Officer of the Santa Ana Water Board approved the proposed plan to develop an SNMP for the Upper Temescal Valley. The final draft of the *Salt and Nutrient Management Plan for the Upper Temescal Valley* (hereafter, SNMP) was submitted to the Santa Ana Water Board on October 9, 2017 and was accepted by the Executive Officer on November 7, 2017.

To ensure that the technical work and final recommendations of the Upper Temescal Valley SNMP would meet the requirements of the Santa Ana Water Board, Elsinore Valley and Eastern implemented a process to meet with the Santa Ana Water Board to present interim results, discuss comments and concerns, and subsequently refine the scope of work, methods and/or proposed management actions, as appropriate. Following the approval of the scope of work in July 2013, eight meetings were held at the Santa Ana Water Board between November 2013 through August 2017.

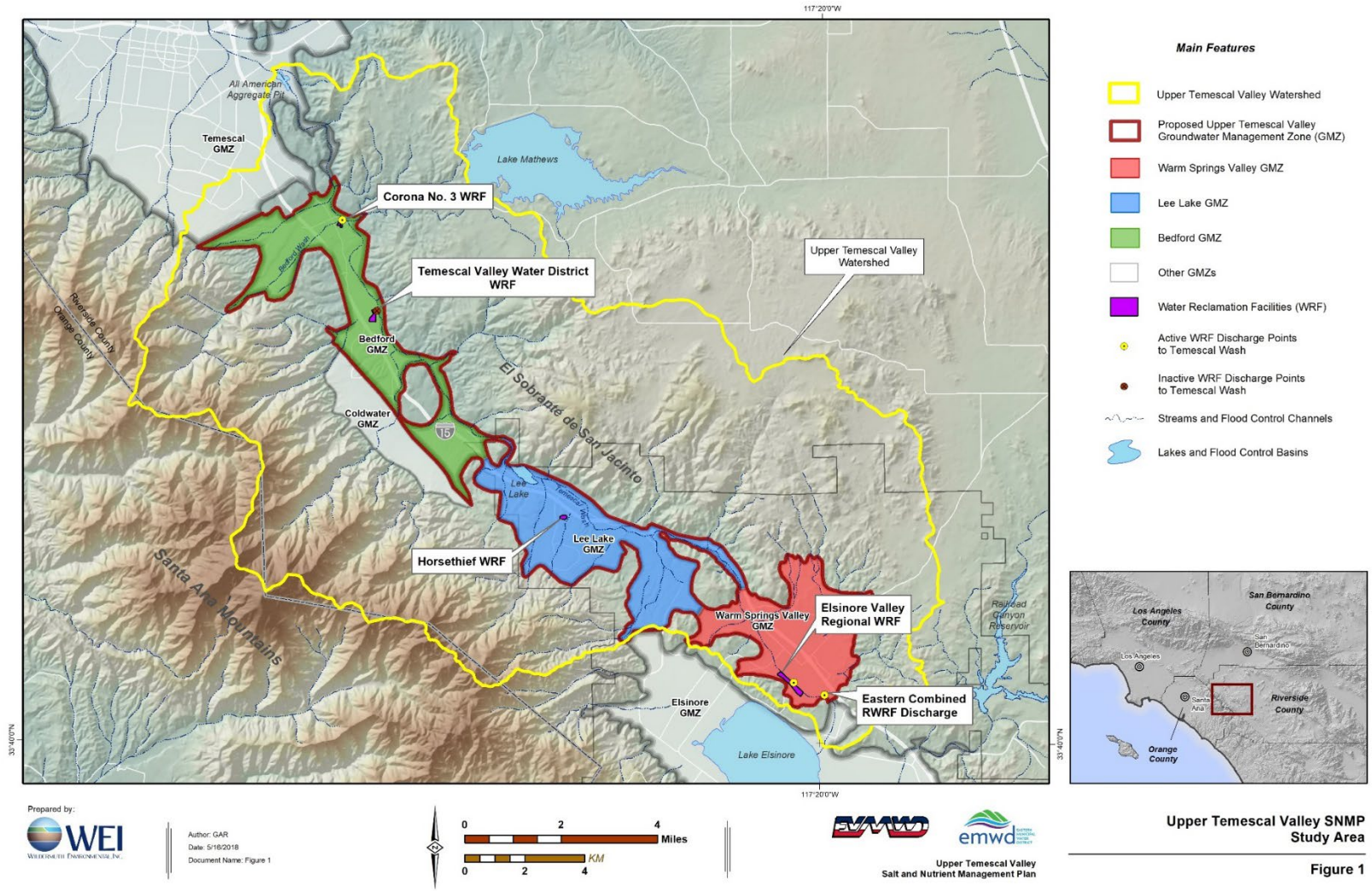
Additionally, Elsinore Valley and Eastern conducted stakeholder outreach to present the goals, results, and recommendations of the SNMP as they were being developed. One meeting was held with other POTW dischargers in the Upper Temescal Valley Watershed on March 30, 2015. The invitees included the City of Corona and the Temescal Valley Water District. These agencies were not required by the Santa Ana Water Board to participate in the development of the SNMP, but provided data for inclusion in the analyses and were invited to learn about the project and how the outcomes could impact the agencies. Two presentations were made to the Santa Ana Region Basin Monitoring Program Task Force on November 17, 2014 and October 27, 2015. These presentations focused on the results of the technical work and the draft recommended SNMP action items. A final regional stakeholder outreach meeting was held as part of the Substitute Environmental Document (SED) scoping meeting on June 20, 2018.

Purpose of the Proposed Basin Plan Amendment

The purpose of the Basin Plan amendment described in this Staff Report is to establish TDS and nitrate antidegradation objectives for the groundwater resources in the Upper Temescal Valley Watershed, specifically to:

- Amend Tables 3-1 and 4-1 of the Basin Plan to remove the Bedford, Lee Lake, Warm Springs Valley GMZs and replace them with the Upper Temescal Valley GMZ.
- Establish beneficial uses and TDS and nitrate antidegradation objectives for the Upper Temescal Valley GMZ.
- Incorporate the Upper Temescal Valley Salt and Nutrient Management Plan (SNMP) into *Chapter 5 – Implementation*

Figure 1. Upper Temescal Valley SNMP - Study Area



2. Proposed Upper Temescal Valley Groundwater Management Zone Boundary and Beneficial Uses

Figure 1 is a location map of the Upper Temescal Valley watershed, which is located in the western portion of Riverside County, California. There is an approximately 20-mile long, narrow alluvial basin that is drained by the Temescal Wash, which is an unlined stream channel from the headwaters at the outlet of Lake Elsinore to the Temescal Gravel Pit in the Temescal GMZ in the City of Corona. The Upper Temescal Valley Watershed is the watershed tributary to the unlined section of Temescal Wash.

There are three water supply agencies that overly and provide water supply services to residences and businesses within the Upper Temescal Valley GMZ: the City of Corona, the Temescal Valley Water District (TVWD; formerly known as the Lee Lake Water District), and Elsinore Valley. All three agencies also own and operate water reclamation facilities to treat wastewater generated in their service areas to tertiary standards before the water is either discharged to Temescal Wash or to percolation ponds or reused for irrigation. Eastern also discharges tertiary treated wastewater generated in its service area to the Temescal Wash. **Figure 1** shows the treatment plant locations and discharge points in the Upper Temescal Valley.

In the current Basin Plan, the groundwater aquifer underlying the Temescal Wash is divided into the Bedford, Lee Lake and Warm Springs GMZs.

Rationale for Establishing the Upper Temescal Valley GMZ

As a first step in the development of the Upper Temescal Valley SNMP, Elsinore Valley and Eastern proposed to combine the existing Bedford, Lee Lake, and Warm Springs GMZs into a single GMZ: the Upper Temescal Valley GMZ. Per the request of Santa Ana Water Board staff, a written rationale for the GMZ boundary modification was submitted on September 8, 2014 (WEI, 2014). Santa Ana Water Board staff verbally approved the use of a single GMZ boundary as the unit of study for the Upper Temescal Valley SNMP at a progress meeting held on September 30, 2014. The rationale for managing the groundwater resources in the Upper Temescal Valley watershed as a single GMZ is summarized as follows.

The 2004 Basin Plan delineated the Basin GMZs based on hydrology and groundwater quality. In the technical work that supported the GMZ delineation (Phase 2A Report - WEI, 2000), the following criteria were defined to delineate new GMZ boundaries:

- impermeable rock formation that prevent subsurface flow from one area to another;
- natural gradients that caus groundwater to flow in one direction and not another; and

- significant differences in TDS and nitrate concentrations to protect areas with high-quality groundwater.

The delineation of the Warm Springs, Lee Lake, and Bedford GMZs in the Phase 2A report and the current Basin Plan were based on the limited data and published reports available to the Nitrogen/TDS Task Force and limited funding to conduct research in this area. No bedrock contours could be developed, or aquifer properties assigned. The feature used to separate the Upper Temescal Valley into three GMZs are the narrow gaps where the bedrock is shallow and the alluvium is thin.

The aquifer underlying the Temescal Wash has a small area of effective storage and is restricted to a narrow band of saturated alluvium along the Temescal Wash, the unlined stream channel that crosses the entire GMZ from south to north. The alluvial sediments along Temescal Wash generally range from 40 to 120 feet deep and are horizontally confined by the impermeable rock of the mountain ranges on both sides of the wash. The wash thalweg (deepest point of the channel) provides a vertical control on the effective width and depth of the groundwater system. On average, the aquifer thickness at the thalweg is no more than 100 feet and the valley floor ranges in width from 50 to 12,000 feet, averaging about 1,400 feet. Based on these characteristics, the Upper Temescal Valley has limited groundwater resources, estimated to range from 25,000 to 75,000 acre-feet.

The primary sources of groundwater recharge are streambed infiltration from stormwater, recycled water discharges, and the deep infiltration precipitation and water applied outdoors for irrigation. Groundwater flows northwest from the Temescal Wash headwaters in Warm Springs. As groundwater flows northwest, it is forced to the surface by high groundwater levels and/or bedrock constrictions (shallow bedrock, bedrock bank constrictions, or both). Thus, rising groundwater in Warm Springs contributes to streambed infiltration in Lee Lake, and rising groundwater in Lee Lake contributes to streambed infiltration in Bedford. More generally stated, groundwater and surface water continuously interact from the headwaters of Temescal Wash at the Lake Elsinore discharge point down to the Temescal Gravel Pit in Corona.

Given that these units are all subject to the same recharge sources and are all impacted by recycled water discharge by Elsinore Valley and Eastern, staff recommends that the groundwater resources underlying the Temescal Wash should be managed as one hydrologically continuous unit and that the Basin Plan should be amended to replace the existing Bedford, Lee Lake, and Warm Springs Valley GMZs with the Upper Temescal Valley GMZ. The revised management zone map to be incorporated into the Basin Plan is shown in the Attachment to Resolution R8-2020-0038, amending Figure 3-6.

Beneficial Uses

The beneficial uses for the Bedford, Lee Lake and Warm Springs GMZs, as defined in Chapter 3, Table 3-1 of the current Basin Plan, are shown in **Table 1**. No changes are proposed to these beneficial uses for the Upper Temescal Valley GMZ. The revisions to Chapter 3 and Table 3-1 of the Basin Plan are shown in the Attachment to Resolution R8-2020-0038.

Table 1. Beneficial Uses of the Bedford, Lee Lake, and Warm Springs GMZs.

Groundwater Management Zone	BENEFICIAL USE																		Hydrologic Unit	
	MUN	AGR	IND	PROC	GWR	NAV	POW	REC1	REC2	COMM	WARM	LWRM	COLD	BIOL	WILD	RARE	SPWN	EST	Primary	Secondary
MIDDLE SANTA ANA RIVER BASIN																				
Bedford	X	X	X	X															801.32	481.31
Lee Lake	X	X	X	X															801.34	
Warm Springs[a]																				

a. Not listed in the 2004 Basin Plan.

3. Proposed Antidegradation TDS and Nitrate Objectives for the Upper Temescal Valley GMZ

The TDS and nitrate antidegradation objectives defined for GMZs in the Basin Plan were revised in 2004 and were set based on the technical work performed by the Task Force from 1996-2000. The technical methodology for computing ambient water quality is documented in *TIN/TDS Study – Phase 2A Development of Groundwater Management Zones – Estimation of Historical and Current TDS and Nitrogen Concentrations in Groundwater* (WEI, 2000). "Ambient water quality" is a statistical representation of water quality in a GMZ over a 20-year period of record. The TDS and nitrate antidegradation objectives are based on historical ambient water quality of the GMZs for the 20-year period of 1954 to 1973, the objective-setting period. The Basin Plan requires that the "current" ambient water quality of the GMZs be computed every three years using the methodology described in WEI, 2000. The current ambient water quality computations are then compared to the objectives and assess assimilative capacity. "Current" ambient water quality represents the 20-year period that precedes the "current" year (e.g. current ambient water quality for 2015 is based on the 20-year period of data for 1996 to 2015).

The key steps in the methodology to compute ambient water quality are:

- compute ambient water quality TDS and nitrate statistics for all wells with sufficient data availability, where sufficient data is defined as wells with a minimum of three TDS and nitrate data points in three different years over the 20-year contiguous period of assessment;
- generate iso-concentration contour maps of TDS and nitrate for each GMZ, based on the ambient water quality statistic value computed at each well; and
- compute the volume-weighted TDS and nitrate concentration in the GMZ based on the aquifer properties and current volume of water in storage in the GMZ.

As introduced in Section 1, TDS and nitrate antidegradation objectives were adopted only for GMZs where sufficient spatial and temporal historical data existed to perform these steps. The Bedford, Lee Lake, and Warm Springs GMZs were among the GMZs for which there was insufficient data to define aquifer properties, compute statistics, and prepare iso-concentration contours. Thus, in order to establish antidegradation objectives and address the regulatory compliance challenges for Elsinore Valley and Eastern, an alternative methodology must be relied on to define TDS and nitrate objectives for the Upper Temescal Valley GMZ.

Elsinore Valley and Eastern developed and applied an alternative, science-based methodology for computing the antidegradation objectives for the Upper Temescal Valley GMZ that is consistent with some of the key elements of the approach used to establish antidegradation objectives in the 2004 Basin Plan amendment, including

estimating water quality conditions for the 1954 to 1973 objective setting period. The alternative method is based on the concept that the Upper Temescal Valley GMZ aquifer system underlying Temescal Wash is shallow, narrow, and primarily confined to the sediments underlying the Wash and therefore the ambient TDS and nitrate concentrations will be about equal to the volume-weighted average recharge TDS and nitrate concentrations for a representative preceding period (e.g. 1954-1973). This is a valid assumption if it can be demonstrated that the total recharge volume over that period is significantly greater than the storage volume of the management zone, where "significantly" means that the basin turn-over time (e.g. the number of years it takes for recharge to completely replace the volume of water in storage) is less than or equal to half the number of years in the representative period. For establishing antidegradation objectives, the representative period of interest is 20 years and so the turn-over time must be 10 years or less. The technical work performed for the SNMP demonstrated that the turn-over time in the Upper Temescal Valley is about 7 years. The technical methodology, the data on which it is based, and its use to estimate historical ambient water quality is documented in detail in the SNMP report (WEI, 2017).

The alternative methodology includes the following steps:

- Estimate the potential volume of water in storage in the GMZ
- Define the sources of recharge and discharge in the GMZ
- Estimate the annual recharge volume and associated TDS and nitrate concentrations for each recharge term in each year of the 1954 to 1973 period
- Estimate the annual discharges from the GMZ for each year in the 1954 to 1973 period
- Compute the annual volume-weighted TDS and nitrate concentration in the GMZ for each year in the 1954 to 1973 period
- Compute the mean, standard error of the mean, and t-statistic for the 20 annual volume-weighted TDS and nitrate concentrations in the 1954 to 1973 period
- Compute ambient water quality based on the following equation:

$$AWQ = mean + (t * standard\ error\ of\ the\ mean)$$

The annual volume-weighted TDS concentration of the Upper Temescal Valley GMZ ranged from about 699 to 923 mg/L and averaged about 808 mg/L over the 20-year period of 1954 to 1973. Applying the ambient water quality statistic, the historical ambient TDS concentration for the period of 1954 to 1973 is 822 mg/L, as shown below in **Table 2**.

The annual volume-weighted nitrate concentration of the Upper Temescal Valley GMZ ranged from about 4.3 to 9.7 mg/L and averaged about 7.5 mg/L over the 20-year period of 1954 to 1973. Applying the ambient water quality statistic process, the historical ambient nitrate concentration for the period of 1954 to 1973 is 7.9 mg/L, as shown below in **Table 2**.

Table 2
Historical Ambient Water Quality of the Upper Temescal Valley GMZ

Constituent	20-Year Mean 1954-1973	Standard Error of the Mean	t-statistic	Historical Ambient (mean + t*std error)
TDS (mg/L)	808	15	1.0	822
Nitrate (mg/L)	7.5	0.4	0.99	7.9

TDS and Nitrate Antidegradation Objectives

Consistent with the existing antidegradation objectives for GMZs in the Basin Plan, Staff recommends that the antidegradation objectives for the Upper Temescal Valley GMZ be based on historical ambient water quality for the 20-year period of 1954 to 1973. The proposed antidegradation objectives for TDS and nitrate-nitrogen are shown in **Table 3** and are presented in the Attachment to Resolution R8-2020-0038, amending Chapter 4, Table 4-1 WATER QUALITY OBJECTIVES. As was done for the 2004 Basin Plan amendment, the calculated ambient TDS concentration was rounded to the nearest ten to establish the antidegradation objective.

Table 3
Proposed Antidegradation Objectives for TDS and Nitrate

Constituent	Calculated Historical Ambient Concentration	Antidegradation Objective
TDS (mg/L)	822	820
Nitrate (mg/L)	7.9	7.9

Consistency of these objectives with CWC 13241 is discussed in Section 5 of this Staff Report.

4. Current Ambient Water Quality, Assimilative Capacity, and Projections of Future Ambient Water Quality

Current Ambient Water Quality in the Upper Temescal Valley GMZ

The same methodology used to compute historical ambient water quality was applied to compute current ambient water quality for 2014. The 20-year period of analysis was 1995 to 2014. The work to compute current ambient water quality is documented in detail in the SNMP report (WEI, 2017), and the results are shown in Table 4.

Table 4
Current Ambient Water Quality of the Upper Temescal Valley GMZ

Constituent	20-Year Mean 1995-2014	Standard Error of the Mean	t-statistic	Current Ambient (mean + t*std error)
TDS (mg/L)	738	13	1.0	751
Nitrate (mg/L)	4.5	0.2	1.0	4.7

Assimilative Capacity

Assimilative capacity is defined as the amount, in mg/L, of degradation that can occur before a GMZ exceeds its Basin Plan objective. If the current ambient water quality of a GMZ is equal to or numerically higher than the water quality objective, then that GMZ does not have assimilative capacity. If the current ambient water quality is numerically less than the specified water quality objectives, then that GMZ has assimilative capacity. The difference between the objectives and current ambient water quality is the amount of assimilative capacity available. The assimilative capacity of a GMZ must be assessed in order to permit waste discharges to that GMZ.

The assimilative capacity available in the Upper Temescal Valley GMZ is shown in **Table 5**. Note that just as with the objectives, the current ambient calculation for TDS is rounded to the nearest ten.

Table 5
Assimilative Capacity for TDS and Nitrate in the Upper Temescal Valley GMZ

Constituent	Antidegradation Objective	Current Ambient	Assimilative Capacity
TDS (mg/L)	820	750	70
Nitrate (mg/L)	7.9	4.7	3.2

5. Antidegradation Analysis

Antidegradation analyses are performed in support of Waste Discharge Requirements and NPDES permit renewals when a GMZ has assimilative capacity for TDS and/or nitrate, and the proposed discharge has a concentration greater than the objective or the current ambient water quality. If constituent concentrations are projected to increase relative to current ambient concentrations, the discharger must request an allocation of assimilative capacity for the discharge and demonstrate that beneficial uses will not be impacted.

The purpose of the antidegradation analysis is to demonstrate whether the proposed discharge would result in a numeric increase in ambient water quality in the affected receiving waters. That is, to what extent, if any, would the discharge use available assimilative capacity for TDS and/or nitrate in the GMZ. If the discharger demonstrates that a numeric increase in the TDS and/or nitrate concentration of the ambient water quality would not occur as a result of the discharge, then antidegradation requirements are met. If the analysis indicates that a numeric increase in the TDS and/or nitrate concentration of the ambient water quality would occur, other than on a minor or temporally or spatially limited basis, then the discharger must demonstrate that:

(1) beneficial uses would continue to be protected and the established water quality objectives would be met;

(2) that the resultant water quality would be consistent with maximum benefit to the people of California; and

(3) that best practicable treatment or control has been implemented. Best practical treatment or control means levels that can be achieved using best efforts and reasonable control methods.

For affected receiving waters, the discharger must estimate the amount of assimilative capacity that would be used by the discharger. The Regional Board would employ its discretion in determining the amount of assimilative capacity that would be allocated to the discharger. As an alternative to allocating assimilative capacity, the Regional Board may require the discharger to mitigate or offset discharges that would result in the lowering of water quality.

Table 6 summarizes the TDS and TIN discharge limitations in Elsinore Valley and Eastern's waste discharge permits for discharges to the Upper Temescal Valley GMZ.

Table 6. TDS and TIN Discharge Limitations for Elsinore Valley and Eastern

Water Reclamation Facility	Agency	Permit Number	TDS Limit (mg/L)	TIN Limit (mg/L)
Regional	Elsinore Valley	R8-2019-0054	700	13
Eastern WRFs	Eastern	R8-2015-0006	650	10

Total Dissolved Solids

As shown in **Table 5**, there is 70 mg/L of assimilative capacity in the Upper Temescal Valley GMZ. Thus, any discharges with TDS concentrations in excess of the current

ambient TDS concentration require a full antidegradation analysis to document the amount of assimilative capacity that will be used by the waste discharge. Currently, the Elsinore Valley TDS discharge limitation is 700 mg/L, and the Eastern limitation is 650 mg/L. As such, no allocation of assimilative capacity is required at this time for Elsinore Valley or Eastern recycled water discharges. As shown in the future projections of ambient water quality, there may be times when ambient water quality is less than Elsinore Valley's discharge limitation, and an antidegradation analysis may need to be performed at such a time that finding is made.

Although there are no regulatory compliance concerns as they relate to permitting Elsinore Valley's and Eastern's recycled water discharges at the existing, permitted TDS limitations, their discharges are expected to occasionally exceed the 12-month running average TDS limitations during times of drought (dry periods) or other periods when source water TDS concentrations tributary to the wastewater treatment plants are high. Accordingly, this requires a salt mitigation strategy to be adopted. Developing the salt mitigation strategy is a requirement of the Upper Temescal Valley SNMP (implementation action number 4), as discussed in Section 6 of this Staff Report.

Nitrate

As shown in **Table 5**, there is 3.2 mg/L of assimilative capacity in the Upper Temescal Valley GMZ. Thus, any discharges with nitrate concentrations in excess of the current ambient nitrate concentration require an antidegradation analysis to document the amount of assimilative capacity that will be used by the waste discharge.

As shown in **Table 6**, Elsinore Valley and Eastern have nitrate discharge limitations of 13 and 10 mg/L, respectively. The Basin Plan includes a default assumption of a 25-percent nitrogen loss in the recharge of recycled water discharged to surface waters. Thus, for regulatory purposes the permitted discharges of 13 and 10 mg/L nitrogen are equivalent to recharge TDS concentrations of 9.8 and 7.5 mg/L (e.g. 10 mg/L * 0.75 = 7.5). Further, to be consistent with the methods used by the Regional Board in the wasteload allocation analysis (see WEI, 2015 for example), the maximum of the 10-year average streambed recharge over a long-term hydrologic period is used to define the worst-case streambed recharge. **Table 7** shows the projected ambient nitrate in the GMZ and the 10-year running average streambed recharge concentration as estimated by the WLAM for scenario 1b.

Table 7. Projected Ambient Nitrate in the Upper Temescal Valley GMZ and 10-Year Running Average Streambed Recharge Nitrate Concentrations

Scenario	Projected Ambient TDS Concentrations (mg/L)			WLAM Projected 10-Year Running Average Streambed Recharge TDS Concentrations(mg/L)		
	Minimum	Maximum	Average	Minimum	Maximum	Average
Scenario 1b	4.3	5.5	4.8	3.6	5.6	4.5

While the maximum of the 10-year rolling average nitrate concentration is less than the antidegradation objective of 7.9 mg/L, it is greater than current ambient concentration of 4.7 mg/L, thus requiring an allocation of assimilative capacity for both agencies because the nitrate concentration in the Upper Temescal Valley GMZ is projected to increase in Scenario 1b. Using the average value of the projected ambient nitrate concentration in groundwater, and assuming the degradation is driven solely by the combined recycled water discharges (which are the highest source of nitrate loading), a degradation of about 0.1 mg/L (4.8 - 4.7 = 0.1) will occur. This is the equivalent of three percent of the available assimilative capacity.

The following describes how Elsinore Valley and Eastern meet the requirements for allocation of assimilative capacity for nitrate.

Beneficial Uses. The projected range of nitrate concentrations in the GMZ is generally about equal to or less than one-half of the Maximum Contaminant Level of 10 mg/L for nitrate, and thus the degradation will not impair beneficial uses.

Best Practicable Treatment or Control. Both agencies are implementing best practical treatment technologies to ensure TIN discharges are less than or equal to 10 mg/L. Although the Elsinore Valley has a discharge limitation of 13 mg/L, the actual TIN concentration of discharges is much less to manage the nitrate concentrations in the discharges to Lake Elsinore, as required by R8-2019-0054.

Maximum Benefit Demonstration. The maximum benefit demonstration for each discharge follows.

- *Elsinore Valley – Regional WRF discharge to the Temescal Wash*. This discharge is being done (and is required) to support the riparian vegetation in Gunerson Pond, which is located downstream of its discharge point. The protection of this environmental resource is of maximum benefit. Absent this requirement, the entirety of the Regional WRF's current discharge would be dedicated to maintaining lake levels in Lake Elsinore.
- *Eastern Discharge to the Temescal Wash*. The absolute minimum amount of recycled water is discharged to the Temescal Wash when recycled water production exceeds recycled water demands and wet period conditions require that storage ponds in the San Jacinto Valley be drained. The allocation of assimilative capacity supports the reuse of

recycled water in the Eastern's service area, which reduces the amount of imported water from Northern California through the SWP and thus reduces demands on the environmentally sensitive Sacramento-San Joaquin Delta and helps meet the State Board's recycled water reuse goals, both of which provide maximum benefit to the State.

The implementation actions in the management plan will ensure long-term protection of beneficial uses. Thus, Elsinore Valley and Eastern must implement the Upper Temescal Valley SNMP as a condition of being granted an allocation of assimilative capacity for nitrate in the Upper Temescal Valley GMZ.

6. Consistency with California Water Code 13241

As discussed in Section 3, Staff recommends that the antidegradation objectives for the Upper Temescal Valley GMZ be based on historical ambient water quality for the 20-year period of 1954 to 1973, consistent with the existing antidegradation objectives for GMZs in the Basin Plan. Santa Ana Water Boards are also required to consider other requirements when establishing water quality objectives. California Water Code §13241 states:

> *Each regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance; however, it is recognized that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses. Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all of the following:*
>
> *(a) Past, present, and probable future beneficial uses of water.*
>
> *(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.*
>
> *(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.*
>
> *(d) Economic considerations.*
>
> *(e) The need for developing housing within the region.*
>
> *(f) The need to develop and use recycled water.*

The following describes the factors considered in recommending the proposed TDS and nitrate antidegradation objectives of 820 and 7.9 mg/L for the Upper Temescal Valley GMZ.

<u>CWC §13241 (a) Past, present, and probable future beneficial uses of water</u>

The proposed beneficial uses for the Upper Temescal Valley GMZ are:

- MUN – waters used for community, military, municipal, or individual water systems. These uses include, but are not limited to, drinking water supply.
- AGR – waters used for farming, horticulture, or ranching. These uses may include, but are not limited to, irrigation, stock watering, and support of vegetation for range grazing.
- PROC – waters are used for industrial activities that depend primarily on water quality. These uses include, but are not limited to, process water supply and all uses of water related to product manufacturing and food preparation.

The use impairment threshold concentrations for TDS and TIN for these beneficial uses, as listed or inferred from the current Basin Plan and from Santa Ana Water Board Order R8-2010-0012 (the Declaration of Conformance with the State Recycled Water Policy), are:

Table 8

Beneficial Uses and Water Quality Thresholds

Beneficial Use	TDS Threshold (mg/L)	TIN Threshold (mg/L-N)
MUN	500 - 1,000	8-10
AGR	700 – 750	>10
IND	nl	nl
PROC	nl	nl

The "nl" listed above means that the Basin Plan is silent as to the impairment threshold concentration for these uses. For the MUN use, the Basin Plan states that a TDS concentration of 1,000 mg/L is the beneficial use threshold and that 500 mg/L is preferable for drinking water supply. The 500 mg/L is really a goal based on consumer preference. In certain areas in the watershed, the TDS concentration in municipal supplies exceeds 500 mg/L, including the services areas[2] of Elsinore Valley and Eastern. Per R8-2012-0012, the threshold for setting Basin Plan objectives that are not based on historic water quality is 750 mg/L. The only GMZs with allowable TDS objectives greater than this limit are set based on historic high-TDS conditions, such as the Arlington (980 mg/L), Riverside-D (810 mg/L), Menifee (1,020 mg/L), Perris South (1,260 mg/L), and Irvine (910 mg/L) GMZs. For AGR use, the Basin Plan states that 700

[2] In areas that use extensive amounts of Colorado River Aqueduct (CRA) water or a blend of CRA and SWP water, the TDS concentration can exceed 500 mg/L. For example, the TDS concentration of water provided to EMWD and the District from the Metropolitan Water District of Southern California Skinner treatment plant exceeds 500 mg/L about 60 percent of the time and has historically exceeded 700 mg/L.

mg/L is the beneficial use threshold for irrigation, and R8-2010-0012 notes that concentrations greater than 750 mg/L have adverse impacts to *some* crops. In reality, this threshold is arguable in that most of the recycled water served for irrigation in the Orange County part of the Santa Ana Region ranges from 700 mg/L to 1,000 mg/L; and groundwater used for irrigation in the Temescal Valley and the southern Chino Basin also has historically exceeded 700 mg/L.

The Basin Plan threshold for TIN for MUN use is 10 mg/L, which is the maximum allowable concentration for nitrate in drinking water, as set by the DDW for the protection of human health. However, per R8-2012-0012, the threshold for setting Basin Plan objectives that are not based on historic water quality is 5 mg/L. The Basin Plan and R8-2010-0012 are silent regarding the TIN impairment threshold for AGR use; however, it is reasonable to assume that this impairment threshold is significantly greater than 10 mg/L and is thus shown above as >10 mg/L.

Establishing the TDS and nitrate antidegradation objectives for the Upper Temescal Valley GMZ based on the historical ambient water quality values of 820 mg/L and 7.9 mg/L, respectively is consistent with the 2004 Basin Plan amendment methodology. And the work performed in support of the Upper Temescal Valley SNMP demonstrates that recycled water discharges will not contribute to exceedances of the objectives. For TDS, all of the recycled water discharges are less than the objective and are projected to be less than current ambient water quality of 750 mg/L about 95 percent of the time. For nitrate, the discharges are only projected to use about three percent of current assimilative capacity and nitrate concentrations are projected to remain well below the objective in the future. Lastly, the requirement to implement the Upper Temescal Valley SNMP, will ensure that water quality of the GMZ is monitored, that ambient water quality is periodically recomputed, and that future projections of ambient water will periodically be prepared based on the latest cultural conditions and planning information. This process will enable the Santa Ana Water Board to continually assess if beneficial uses of the Upper Temescal Valley GMZ are being protected.

CWC §13241 (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto *and* CWC §13241 (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area

The TDS and nitrate antidegradation objectives of 820 mg/L and 7.9 mg/L, respectively, for the Upper Temescal Valley GMZ are based on the historical ambient water quality values for the 1954-1973 period and are reflective of the hydrogeologic condition and the sources of water supply available in the region. The hydrogeologic properties of the Upper Temescal Valley GMZ have a significant influence on water quality in the groundwater basin. As summarized in Section 2 of this report and described in detail in the Upper Temescal Valley SNMP report (WEI, 2017), the Upper Temescal Valley GMZ aquifer system underlying Temescal Wash is shallow, narrow, and primarily confined to the sediments underlying the Wash. Storage is estimated to be about 75,000 acre-feet

and the total recharge volume over a 20-year period is significantly greater than the storage volume of the GMZ. Based on the storage volume and recharge, the turn-over time in the Upper Temescal Valley is about 7 years. The TDS and nitrate concentrations in the GMZ are highly variable both spatially and at individual wells. This variability is reflective of wet and dry climate cycles, the small effective storage, and the surface and groundwater interchange along the Temescal Wash.

The primary sources of groundwater recharge are streambed infiltration from stormwater and recycled water discharges and the deep infiltration of water applied outdoors for irrigation. The Upper Temescal Valley SNMP demonstrates that the ambient TDS and nitrate concentrations, if represented by a 20-year time period, are reflective of the volume-weighted average TDS and nitrate concentrations of the recharge sources. For this reason, the groundwater quality of the Upper Temescal Valley GMZ is highly affected by the water quality of sources used for outdoor irrigation, especially over dry periods when stormwater recharge is limited, and by the TDS concentration of recycled water discharges.

The research performed for the development of the SNMP identified that the sources of water procured by the Temescal Water Company and used for irrigation in the Upper Temescal Valley Watershed from 1886 to 1973 were high in TDS, and that several of the sources of supply had to be abandoned due to excessive TDS concentrations, including Lake Elsinore and groundwater imported from the San Jacinto Valley. **Table 7** summarizes the estimated TDS and nitrate concentrations of the source waters used in the Upper Temescal Valley from 1900 to 1975, based on available historical documents. The TDS concentration of these sources ranged from as low as 100 mg/L for local surface-water runoff to greater than 1,000 mg/L for Lake Elsinore and San Jacinto River Basin groundwater. The nitrate concentrations ranged from zero to ten mg/L.

Table 9
Estimated TDS and Nitrate Concentrations of Source Waters Used in Upper Temescal Valley from 1900-1975

Water Supply Source	Estimated TDS	Estimated Nitrate
	mg/L	*mg/L*
San Jacinto River Basin Groundwater (Perris South GMZ)	1,260	2.5
Coldwater GMZ	380	1.5
Upper Temescal Valley GMZ	> 380	

Surface Water Diversions from Tributaries to Temescal Wash	150 - 300	0 - 6
Bunker Hill-B GMZ	330	7.3
Riverside-A GMZ	560	6.2
Riverside-F GMZ	660	9.5
San Jacinto River Diversions	n.a.	trace
Colorado River Aqueduct	700	< 1

n.a. = data not available

Given that the highest-quality water sources (local surface and storm waters) were not available year-round and were insufficient to meet demands in most years, especially as urban development began, it is reasonable to assume that the average TDS of the irrigation supply in any given year ranged between 300 and 900 mg/L, depending on the mix of sources being used and assuming that irrigators would manage the irrigation to have a TDS concentration of less than 1,000 mg/L to protect the citrus trees. Based on this source water quality, and assuming that irrigated crops do not assimilate the TDS and that flood irrigation practices had an efficiency of 50 percent, the TDS concentration of the deep infiltration of applied water likely ranged between 600 and 1,800 mg/L. Given that crops do assimilate nitrogen, the nitrate concentration of the deep infiltration of applied water would have been a function of fertilizer practices, but would not be expected to be low.

Given the hydrogeology of the Upper Temescal Valley GMZ, the high-TDS and nitrate historical ambient water quality for the 1954-1973 period of the Upper Temescal Valley (820 and 7.9 mg/L) is explained in large part by the irrigation practices, including sources waters available to the region at the time. The historically high TDS and nitrate in the neighboring Temescal and Arlington GMZs (770 and 10 mg/L; and 980 and 10 mg/L respectively), is likely also explained, in part, by the abundant use of these same poor-quality source waters and fertilizer practices for the large-scale irrigation that was also occurring in those GMZs.

The water quality of the Upper Temescal Valley GMZ is still dominated by the streambed infiltration and the deep infiltration of applied water, but streambed recharge has a far greater influence on recharge quality for the current ambient water quality as of 2014. The average streambed recharge has increased to nearly 11,900 acre-feet per year, compared to 4,700 acre-feet per year in the historical period. The increase in streambed infiltration is driven by the increase in storm runoff due to urbanization of the watershed and recycled water discharges to the Temescal Wash.

Table 8 summarizes the TDS and nitrate concentrations of the current water supply sources used in the Upper Temescal Valley based on available data as of 2014. The TDS concentrations of the potable water sources range between 270 and 530 mg/L. Dedicated non-potable outdoor irrigation supply sources range between 500 and 1,500 mg/L. Based on the mix of supplies used for outdoor irrigation, and assuming that irrigated vegetation does not assimilate the TDS and an irrigation efficiency of 75%, the concentration of the deep infiltration of applied water likely ranges between 1,500 and 2,500 mg/L. The nitrate concentrations of the potable water sources range between 0.2 and 2.8 mg/L and the non-potable sources from 3.6 to 45 mg/L. As with the historical period, the nitrate concentration of the deep infiltration of applied water is a function of fertilizer practices, however today the practices are dominated by urban application and not expected to result in high nitrate recharges.

Table 10
Estimated TDS and Nitrate Concentrations of Source Waters Currently (2014) Used in Upper Temescal Valley

Water Supply Source	Estimated TDS	Estimated Nitrate
	mg/L	*mg/L*
Imported Water from the State Water Project (SWP)	270	0.6
Blend of SWP and Colorado River Water from the Skinner Treatment Plant	518	0.2
Potable Groundwater from the Coldwater GMZ	440	2.8
Potable Groundwater from the Elsinore GMZ	490	2.1
City of Corona DWP Municipal Water Supply	530	1.8
Brackish Groundwater from the UTV GMZ	400 - 1,500	ND* - 20
Recycled Water from TVWD WRF	500 - 550	5.3 - 8.9

Recycled Water from Corona #3 WRF	650 - 690	3.6 - 6.4
Recycled Water from Horsethief WRF	570 - 730	20 - 45

ND* = non-detect

In summary, the hydrogeologic properties of the Upper Temescal Valley GMZ and the sources of water quality available in the watershed have a significant influence on water quality in the groundwater basin and so the concentrations of recycled water discharged to Temescal Wash and used for irrigation are the controllable factors that contribute to groundwater quality in the Upper Temescal Valley GMZ. As previously described, in Sections 4 and 5 of this Staff Report (Antidegradation Analysis), the work performed in support of the Upper Temescal Valley SNMP demonstrates that recycled water discharges will not contribute to exceedances of the objectives. For TDS, all of the recycled water discharges are less than the objective and are projected to be less than current ambient water quality of 750 mg/L about 95 percent of the time. For nitrate, the discharges are only projected to use about three percent of current assimilative capacity and nitrate concentrations are projected to remain well below the objective in the future.

CWC §13241 (d) Economic considerations

Section 7 (under the discussion of the Alternatives Analysis) of this Staff report provides a full economic discussion and consideration in support of the proposed regulatory compliance strategy, which includes the establishment of TDS and nitrate objectives. As described in detail in Section 7 and shown in Table 11, the present value compliance cost of the status quo (No Project) regulatory compliance approach that does not establish groundwater quality objectives, and that requires construction of salt offset facilities for exceedance of discharge limitations ranges from about $11.2 to $27.2 million dollars (2012 $). The annual salt offset provided by these facilities is far in excess of the liabilities that would need to be mitigated by Elsinore Valley and Eastern for the periodic violation of the discharge limitations. Even the smallest facility, sized at 0.5 million gallons per day (MGD), exceeds the offset needs by about 530 tons per year.

The proposed Basin Plan amendment is a preferred alternative to this approach because it establishes water quality objectives that can be used as a metric to more reasonably achieve the Santa Ana Water Board goal of writing discharge permits that comply with receiving water body objectives and it provides for a cost-effective approach to defining a salt offset program for periodic and short-term permit violations through participation in the Task Force efforts.

Further, the Upper Temescal Valley SNMP study provides a robust, scientifically-defensible method to establish TDS and nitrate objectives in a manner that is consistent

with key principles of the Santa Ana Water Board-approved methodology used establish antidegradation objectives in the 2004 Basin Plan Amendment. Under that approach, salt offset facilities are not necessary to protect beneficial uses or comply with the antidegradation objectives. Thus, the costs that would potentially be incurred by implementing an alternative approach are not warranted. Adoption of the preferred action provides the Santa Ana Water Board with a regulatory framework that allows ongoing assessment of ambient water quality and adjustment to the SNMP implementation actions should water quality or other planning and regulatory conditions change.

CWC §13241 (e) The need for developing housing within the region *and* CWC §13241 (f) The need to develop and use recycled water

Currently there are no TDS and nitrate antidegradation objectives established for the Upper Temescal Valley GMZ. As described in the Upper Temescal Valley SNMP report, the population of the Upper Temescal Valley watershed is growing and much of the vacant land as of 2014 will be converted to urban uses.

As the region grows, there will be increased demands for non-potable uses of water supplies, which could be served, at least in part, with recycled water. Establishing TDS and nitrate antidegradation objectives for the Upper Temescal Valley will support the Santa Ana Water Board's ability to permit and assess the impacts of increased recycled water reuse in the Watershed. The implementation of the Upper Temescal Valley SNNP, will further enable these efforts. Thus, establishing objectives and requiring the implementation of the SNMP as recommended in this Staff report address the future need for housing and recycled water reuse.

7. Proposed Modification to the Basin Plan Implementation Plan

Section 13242 of the California Water Code specifies that Basin Plan implementation plans must contain a description of the monitoring and surveillance programs to be undertaken to determine compliance with water quality objectives. As part of this proposed revision to the TDS and nitrate water quality objectives and update of the TDS and nitrate management plan, Staff proposes changes to the Basin Plan to require the implementation of the following management actions defined in the Upper Temescal Valley SNMP. The management actions are:

(1) Develop and implement a data collection program, including a new field surface water and groundwater monitoring program

(2) Prepare a triennial report that describes each agency's source water supplies, potable and recycled water quality, and the current and potential future management activities to support management of TDS in these water supplies

(3) Participation in the Santa Ana River Watershed stakeholder efforts to periodically update the wasteload allocation analysis of recycled water discharges to the Santa Ana River and its tributaries

(4) Develop salt offset strategies for recycled water discharges that periodically exceed discharge permit limits (submit plan by December 31, 2021)

(5) Periodic recomputation of current and projected TDS and nitrate concentrations in the Upper Temescal Valley

(6) Periodic update of the SNMP implementation actions

(7) Annual reporting of progress and activities related to implementation of the SNMP

Given that the specific tasks and associated frequency of activities under each of these management actions may need to be adapted over time due to improved understanding of hydrogeology and water quality or changed planning conditions, Staff recommends that the Basin Plan only reference the requirement to implement the most current version of the SNMP management actions. The specific recommended amendments to Chapter 5 of the Basin Plan are shown in the Attachment to draft Resolution R8-2020-0038. The requirement to implement the SNMP will also be included as requirements of the Elsinore Valley and Eastern waste discharge permits.

Elsinore Valley and Eastern have already begun implementing the management actions and have submitted their first annual report of progress (WEI, 2019). The annual report documents the monitoring program work performed in 2018 and provides the status of all other management activities and planned activities for 2019. A brief overview of each management action as described in the 2017 SNMP follows.

Monitoring and Data Collection Program

The objective of the monitoring and data collection program is to create a comprehensive dataset for analyzing current and future TDS and nitrate concentrations in the Upper Temescal Valley GMZ. The types of data sets that need to be collected for this purpose include: surface water flow and quality of Temescal Wash; groundwater levels and quality; groundwater production; recycled water discharge volumes and TDS and nitrate concentrations; recycled water reuse volumes and locations of reuse; precipitation; Lake Elsinore outflow; water supply plans of the agencies overlying the Upper Temescal Valley watershed; and land use and drainage system changes.

To fill existing data gaps, some of this data is being collected as part of new surface water and groundwater field monitoring programs. Other readily available datasets will be provided by cooperating agencies.

Reporting of Water Supply and Discharge TDS and Water Quality Management Activities

The objective of this reporting requirement is to provide information on how water quality in the Elsinore Valley and Eastern service areas is changing over time. Elsinore Valley and Eastern will each prepare their own separate report of activities. The reports will include: a characterization of the service area, source water supplies, and recycled water discharge and reuse; descriptions of the current and potential future activities to manage/improve the TDS concentration of supply sources and/or wastewater; and a characterization of historical and current TDS concentrations of source waters and recycled waters to demonstrate water quality trends over time. Eastern and Elsinore Valley each submitted reports in 2018 (WEI, 2018a and WEI, 2018b, respectively).

Participation in the Update of the Wasteload Allocation for the Santa Ana River Watershed

The objective of this reporting requirement is to ensure that Elsinore Valley and Eastern participate in the periodic efforts to evaluate the current and future impacts of recycled water discharges on the quality of the Santa Ana River, its tributaries, and the associated underlying GMZs. As part of the existing Basin Plan implementation activities described in Chapter 5, the Santa Ana Water Board requires the Task Force to update the wasteload allocation analysis for the Santa Ana River Watershed on a period basis at the request of the Santa Ana Water Board. To meet this commitment, Elsinore Valley MWD and Eastern MWD must participate financially, or with in-kind contributions of the robust data and models developed for the Upper Temescal Valley SNMP, in the watershed-wide effort when it is required to be performed by the Santa Ana Water Board.

Develop Salt Offset Strategies for Recycled Water Discharges that Periodically Exceed Discharge Permit Limits

The objective of this management action is to identify economically feasible salt offset strategies for the periodic, short-term discharges of recycled water with TDS concentrations that exceed waste discharge limitations. Although the Upper Temescal Valley SNMP identified that there are no regulatory compliance concerns as they relate to permitting Elsinore Valley MWD's and Eastern MWD's recycled water discharges at the TDS permit limitations established in the existing waste discharge permits, their discharges will continue to occasionally exceed the discharge limitations, thus requiring a salt offset strategy to be adopted.

As described in Section 5 above, the Task Force is leading an effort to evaluate a variety of alternative management and permitting strategies that take these climate-driven occurrences, and their associated impacts to groundwater and beneficial uses, into account. Development of this policy will involve extensive technical studies to demonstrate the impacts of the various management strategies considered. In lieu of developing a specific salt mitigation strategy in the SNMP to address permit violations, Elsinore Valley and Eastern will participate in the Task Force efforts and will adopt and implement a TDS management strategy that is consistent with any new Santa Ana

Water Board-approved management strategy. To meet this commitment, Elsinore Valley and Eastern must participate financially in the Task Force effort and submit a plan to the Regional Board for Executive Officer approval by December 31, 2021.

Periodic Recomputation of Ambient Water Quality

Given that the technical methodology used to evaluate water quality in the GMZ deviates from the current Basin Plan approved methodology, the objective of this management action is to ensure the periodic assessment of compliance with Basin Plan objectives in the Upper Temescal Valley GMZ pursuant to methods acceptable to the Santa Ana Water Board. This effort will include computing ambient water quality and preparing updated projections of future TDS and nitrate concentrations based on the recycled water reuse and development plans of the agencies in the Upper Temescal Valley to determine if revised or new SNMP management actions are required.

The next recomputation is due to the Santa Ana Water Board by October 31, 2020. For this next update, the same (or functionally equivalent) surface water and groundwater modeling tools will be updated to include the new datasets collected through the SNMP monitoring program. Upon completion of the technical work in 2020, Elsinore Valley and Eastern will work with the Santa Ana Water Board to establish a plan and schedule for the next recomputation.

Periodic Update of the Salt and Nutrient Management Plan Actions

The objective of this management action is to ensure that the SNMP management actions are updated in accordance with the latest assessments of compliance with Basin Plan objectives. Based on the results of the periodic efforts to compute current and future TDS and nitrate concentrations in the Upper Temescal Valley GMZ, Elsinore Valley and Eastern will update, as necessary, the SNMP implementation actions – including the plan and schedule for future ambient water quality recomputations. The need for updated actions will be reported together with the ambient water quality assessments.

Annual Reporting of SNMP Progress and Activities

The objective of this management action is to provide detailed status reports to the Santa Ana Water Board. Elsinore Valley MWD and Eastern MWD will prepare a joint annual report on their progress and activities related to the implementation of the Upper Temescal Valley SNMP, including progress towards meeting compliance schedules for each management action. The reporting period will be the calendar year. Each year, the annual report will be due to the Santa Ana Water Board by April 15th. As previously noted, the first annual report was submitted in April 2019 (WEI, 2019).

8. California Environmental Quality Act

The Secretary of Resources has certified the Basin Planning process as functionally equivalent to the preparation of an Environmental Impact Report (EIR) or a Negative Declaration pursuant to the California Environmental Quality Act (CEQA) (California Code of Regulations, Title 14, sections 15250 and 15251(g)). However, in lieu of these documents, the Santa Ana Water Board is required to prepare the following: the Basin Plan amendment; an Environmental Checklist that identifies potentially significant adverse environmental impacts of the Basin Plan amendment; and, a staff report that describes the proposed amendment, reasonable alternatives, and mitigation measures to minimize any significant adverse environmental impacts identified in the Checklist. The Basin Plan amendment, Environmental Checklist (Substitute Environmental Document [SED]), and staff report together are functionally equivalent to an EIR or Negative Declaration.

The proposed Basin Plan amendment is shown in the Attachment to draft Resolution R8- 2020-0038. The SED, included as Attachment X to this report, concluded that there are no potentially significant impacts on the environment caused by the adoption of this Basin Plan amendment. Therefore, no mitigation measures are required.

Alternative Analysis

Pursuant to the State Water Board's regulations for implementing CEQA (CCR title 23, sec. 3777[a]), this environmental review must include an analysis of reasonable alternatives to the proposed action. The intent of the alternatives analysis is to consider whether there are reasonable alternatives that would fulfill the underlying purpose of the Proposed Action which involves an Amendment to the Basin Plan to also achieve and protect water quality standards, but that would minimize or eliminate the potential adverse environmental effects of the Proposed Action. Further, pursuant to CEQA Section 15187, this environmental review must also include an analysis of reasonably foreseeable alternative means of compliance with the rule or regulation which would avoid or eliminate the identified impacts.

As described in *Section G. Environmental Checklist* of the SED, there are no potential adverse environmental impacts associated with the proposed action to amend the Basin Plan to incorporate the Upper Temescal Valley SNMP (GMZ boundary, antidegradation TDS and nitrate objectives, and implementation plan). As there are no potential environmental impacts which could be reduced, the only alternative addressed herein is the No Project Alternative.

Under the "No Project" Alternative, no action would be taken to amend the Basin Plan to combine the Bedford, Lee Lake and Warm Springs GMZs into the Upper Temescal Valley GMZ, to establish antidegradation TDS and nitrate objectives for the Upper Temescal Valley GMZ, or to include the Upper Temescal Valley SNMP in the implementation plan. The TDS and nitrate objectives would remain undefined for the

Bedford, Lee Lake and Warm Springs GMZs. The two regulatory alternatives considered by the Santa Ana Water Board included:

(1) *Assume that existing TDS concentration limitations in the Elsinore Valley and Eastern waste discharge permit limits are protective of beneficial uses of the Bedford, Lee Lake and Warm Springs GMZ*. In this case, the Santa Ana Water Board would continue to permit the Elsinore Valley and Easter recycled water discharges at 700 and 650 mg/L, respectively, and no assessment would be done to evaluate if the permitted limits have the potential to degrade water quality (as was the assumption immediately following the 2004 Basin Plan amendment). However, Elsinore Valley and Eastern would continue to have regulatory compliance issues for the periodic, short-term violation of the discharge limits in times of drought, conservation and high-TDS source water supplies. In the absence of the preferred regulatory alternative, the Santa Ana Water Board would require the Elsinore Valley and Eastern to develop a salt offset plan to mitigate any ongoing exceedances of the discharge permit limitations (the historical offsets were already mitigated through the development of the Upper Temescal Valley SNMP study). Projected future exceedances by both agencies are expected to be occur at a rate similar to that observed since 2013. **Table 11** shows the annual TDS liabilities that Elsinore Valley would have accrued in the absence of the offset allowed for the development of the SNMP over the period of 2013 to 2017. The salt offset facility would need to be sized to mitigate an annual average liability of 4.3 tons.

Table 11.

Elsinore Valley TDS Liabilities That Would Have Accrued in the Absence of the Offset Allowed for the Development of the Upper Temescal Valley SNMP

Year	**Total Discharge to Temescal Wash** (acre-feet)	**Range of Monthly 12-Month Rolling Average TDS** (mg/L)	**Salt Liability** (tons)
2013	659	624 - 645	0
2014	612	655 - 690	0
2015	626	690 - 715	4
2016	642	698 - 738	12
2017	595	601 - 751	10
2018	629	583 - 698	0
		Total	26
		6-year average	4.3

Table 12 shows the annual TDS liabilities that Eastern would have accrued in the absence of the offset allowed for the development of the SNMP over the period of 2013 to 2017. The salt offset facility would need to be sized to mitigate an annual average liability of 69 tons.

Table 12.

Eastern TDS Liabilities That Would Have Accrued in the Absence of the Offset Allowed for the Development of the Upper Temescal Valley SNMP

Year	Total Discharge to Temescal Wash (acre-feet)	12-Month Rolling Average TDS (mg/L)	Salt Liability (tons)
2013	2,726	668	67
2014	0	na	0
2015	0	na	0
2016	0	na	0
2017	2,920	737	345
2018	0	na	0
		Total	412
		6-year average	69

Together, Elsinore Valley and Eastern would need a salt offset facility that could mitigate 73 tons of TDS per year. The Elsinore Valley's consultant MWH performed a detailed engineering analysis of salt offset facilities prior to the development of the SNMP (MWH, 2012). The study identified two facility options to mitigate salt loading in the Upper Temescal Valley GMZs:

a. *Desalt recycled water effluent from the Regional WRF.* Two facility sizes were contemplated: 0.5 MGD and 1.0 MGD. **Table 13** summarizes the annual salt offset provided by the facility, the 2012 present value cost to build it, the equivalent annual cost, and the cost per ton of salt removal.

b. *Desalt groundwater pumped from the Upper Temescal Valley GMZs.* A 2.0 MGD facility was conceptualized. **Table 13** summarizes the annual salt offset provided by the facility, the 2012 current value cost to build it, the equivalent annual cost, and the cost per ton of salt removal

Table 13.

Cost of Potential Salt Offset Facilities for the Upper Temescal Valley

Facility Type	Facility Size (MGD)	Annual Salt Offset Provided (tons)	2012 Present Value Cost ($)	Equivalent Annual Cost ($)	Cost per Ton of Salt Removal ($/tons)
Recycled Water Desalter	0.5	607	11,170,000	820,000	1,350
Recycled Water Desalter	1.0	709	17,500,000	1,300,000	1,835
Groundwater Desalter	2.0	1,430	27,200,000	2,000,000	1,398

The annual salt offset provided by these facilities is far in excess of the liabilities that would need to be mitigated by Elsinore Valley and Eastern for the periodic violation of the discharge limitations. Even the smallest facility, sized at 0.5 MGD, exceeds the offset needs by about 530 tons per year. At the time the MWH study was completed, it was determined that these are not cost-effective facilities for mitigating the small salt liabilities accrued by the periodic and short-term exceedances of the TDS discharge limitations.

The proposed Basin Plan amendment is a preferred alternative to this approach because it establishes water quality objectives that can be used as a metric to more reasonably achieve the Santa Ana Water Board goal of writing discharge permits that comply with receiving water body objectives and it provides for a more cost-effective approach to defining a salt offset program for periodic and short-term permit violations through participation in the Task Force efforts.

(2) *Use an alternative methodology to establish TDS and nitrate objectives in each of the Bedford, Lee Lake and Warm Springs GMZs*. It has been established that it is not possible to use the methodology defined in the Basin Plan for establishing TDS and nitrate antidegradation objectives in these management zones. Thus, in this alternative the Basin Plan would be amended to incorporate objectives based on Best Professional Judgement. Prior to the proposed development of the SNMP, Santa Ana Water Board staff proposed to set objectives based on TDS and nitrate concentrations measured at wells. As described in the Upper Temescal Valley SNMP, the TDS and nitrate concentrations measured at wells across the Upper Temescal Valley are highly variable both spatially and at individual wells. This variability is reflective of wet and dry climate cycles, the small effective storage, and the surface and groundwater interchange along the Temescal Wash. For example, review of current and historical data show that annualized average TDS concentrations at individual wells can vary by as much as 800 mg/L, and the range in TDS concentrations across all wells varies from about 250 to 1,500 mg/L. Using the measured TDS concentration results alone could lead to setting TDS objectives

that are too high to protect beneficial uses. Or, it could result in setting the limits too low and resulting in high compliance costs that might not provide an actual water quality benefit. This is not a preferred option because it would be difficult to build a scientifically-defensible argument for any particular objective based on the extremely variable water quality conditions.

If objective values were established that were less than the current waste discharge limitations, then the Santa Ana Water Board would be required to lower the discharge limitations or require Elsinore Valley and Eastern (and other dischargers in the Upper Temescal Valley – City of Corona and Temescal Valley Water District) to implement a salt offset program. As described for No Project Option 1, the cost to implement salt offset facilities in the Upper Temescal Valley ranges from about $11M to $27M (2012 Present Value Cost).

The Upper Temescal Valley SNMP study provided a robust, scientifically-defensible method to establish TDS and nitrate objectives in a manner that is consistent with key principles of the Santa Ana Water Board-approved methodology used establish antidegradation objectives in the 2004 Basin Plan Amendment. Under that approach, salt offset facilities are not necessary to protect beneficial uses or comply with the antidegradation objectives. Thus, the costs that would potentially be incurred by implementing an alternative approach are not warranted. Adoption of the preferred action provides the Santa Ana Water Board with a regulatory framework that allows ongoing assessment of ambient water quality and adjustment to the SNMP implementation actions should water quality or other planning and regulatory conditions change.

9. Scientific Peer Review

Pursuant to Health and Safety Code Section 57004, all proposed rules that have a scientific basis must be submitted for external scientific peer review. The draft staff report, SED, and the SNMP have been reviewed by four reviewers selected by the State Board staff and the comments have been received and responded. Attachment X contains the peer review comments and the staff responses for comments.

10. Staff Recommendation

Board staff recommends adoption of Resolution R8-2020-0038 to certify the Substitute Environmental Document and adopt the Basin Plan amendment to incorporate the changes shown in the Attachment to draft Resolution R8- 2020-0038, including:

- Revise Tables 3-1 and 4-1 of the Basin Plan to remove the Bedford, Lee Lake, Warm Springs Valley GMZs and replace them with the Upper Temescal Valley GMZ.
- Establish beneficial uses of MUN, AGR, and PROC for the Upper Temescal Valley GMZ.

- Establish TDS and nitrate antidegradation objectives of 820 and 7.9 mg/L for the Upper Temescal Valley GMZ.
- Incorporate the Upper Temescal Valley Salt and Nutrient Management Plan (SNMP) into the Implementation Plan.

References

California Regional Water Quality Control Board, Santa Ana Region. (2004). Resolution R8-2004-0001 Resolution Amending the Water Quality Control Plan for the Santa Ana River Basin to Incorporate an Updated Total Dissolved Solids (TDS) and Nitrogen Management Plan for the Santa Ana Region.

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MWH. (2012). Elsinore Valley Municipal Water District TDS Offset Plan for Regional Water. *Reclamation Facility, Draft Report*. Prepared for the Elsinore Valley Municipal Water District, September 2012.

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WEI. (2013). Letter Report documenting the application of the Wasteload Allocation Model to characterize the TDS impact on the Santa Ana River and Upper Temescal Valley management zones from Eastern Municipal Water District recycled water discharges to Temescal Creek. Prepared for the Eastern Municipal Water District, June 2013.

WEI. (2014). Rationale for Creating the Upper Temescal Valley Groundwater Management Zone. Letter to Elsinore Valley and Eastern dated September 8, 2014.

WEI. (2015). Addendum to the 2008 Santa Ana River Watershed Allocation Model Report: Scenario 8. Technical Memorandum.

WEI. (2017). *Salt and Nutrient Management Plan for the Upper Temescal Valley.* Prepared for the Elsinore Valley Municipal Water District and Eastern Municipal Water District, September 2017.

WEI. (2018a). 2018 Triennial Update to the Maximum-Benefit Salinity Management Plan. Prepared for the Eastern Municipal Water District. August 9, 2018

WEI. (2018b). Water Supply and Recycled Water in the Elsinore Valley Municipal Water District – Salinity Trends and Management. Prepared for the Elsinore Valley Municipal Water District. December 12, 2018

WEI. (2019). *2018 Annual Report of the Salt and Nutrient Management Plan for the Upper Temescal Valley.* Prepared for the Elsinore Valley Municipal Water District and Eastern Municipal Water District, April 2019.

State of California
Regional Water Quality Control Board
Santa Ana Region

Resolution R8-2020-0038

Resolution Amending the Water Quality Control Plan for the Santa Ana River Basin to Establish Upper Temescal Valley Groundwater Management Zone (GMZ) and Associated TDS and Nitrate Water Quality Objectives, and to specify implementation tasks in the Salt and Nutrient Management Plan for the GMZ

Whereas, the California Regional Water Quality Control Board, Santa Ana Region (hereafter Santa Ana Water Board), finds that:

1. An updated Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) was adopted by the Regional Board on March 11, 1994 and approved by the State Water Quality Control Board (State Board) and Office of Administrative Law (OAL) on July 21, 1994 and January 24, 1995, respectively.

2. The Basin Plan identifies groundwater and surface water bodies within the Santa Ana Region (Region), establishes water quality objectives for these water bodies, prescribes implementation plans to ensure that the objectives are achieved, and establishes monitoring and surveillance programs.

3. Subsequent amendments have been made to the Basin Plan. The 2004 Basin Plan amendment which revised groundwater sub-basin boundaries (groundwater management zones or GMZs) and total dissolved solids (TDS) and nitrate-as-nitrogen (nitrate) objectives for the GMZs. The 2004 Basin Plan amendment was adopted by the Santa Ana Water Board on January 22, 2004 and approved by the State Board and OAL on September 30 and December 23 of 2004, respectively. A water quality monitoring program to implement the revised water quality objectives was approved by the Santa Ana Water Board on April 15, 2005.

4. The TDS and nitrate antidegradation objectives for the GMZs defined in the 2004 Basin Plan amendment are statistically derived values representative of the volume-weighted groundwater TDS and nitrate concentrations over the historical period of 1954 through 1973.

5. Antidegradation objectives were not established for GMZs that lacked sufficient hydrogeologic information or groundwater quality data, including the Bedford, Lee Lake, La Habra, Santiago, and Warm Springs Valley GMZs.

6. On March 4, 2005, the Santa Ana Water Board adopted R8-2005-0003 (NPDES No. CA8000027), which established, among other provisions, TDS and nitrate

concentration limitations for the discharge of recycled water by the Eastern Municipal Water District (Eastern MWD) to the Temescal Wash, the unlined portion of which overlies the Bedford, Lee Lake, and Warm Springs Valley GMZs.

7. May 22, 2009, the Santa Ana Water Board adopted R8-2009-0014 (NPDES No. CA8000188), which established, among other provisions, TDS and nitrate concentration limitations for the discharge of recycled water by the Elsinore Valley Municipal Water District (Elsinore Valley MWD) to the Temescal Wash, the unlined portion of which overlies the Bedford, Lee Lake, and Warm Springs Valley GMZs.

8. Both the Elsinore Valley MWD and Eastern MWD have discharged recycled water to Temescal Wash during the winter when the demand for recycled water is low. The discharge has exceeded the permit limits for TDS concentrations in their respective NPDES permits at some occasions. In 2011, the Santa Ana Water Board requested Elsinore Valley MWD and Eastern MWD to estimate the impact of the recycled water discharges that exceeded the permit limits to the Bedford, Lee Lake, and Warm Springs Valley GMZs and to the Santa Ana River at Prado Dam.

9. On October 30, 2012, the Elsinore Valley MWD completed a technical report and submitted it to the Santa Ana Water Board demonstrating that the recycled water discharges that exceeded the TDS permit limits did not cause a measurable increase of the TDS concentration of the Santa Ana River at Prado Dam.

10. On July 19, 2013, the Eastern MWD completed a technical report and submitted it to the Santa Ana Water Board demonstrating that the recycled water discharges that exceeded the TDS permit limits did not cause a measurable increase of the TDS concentration of the Santa Ana River at Prado Dam.

11. Due to the lack of groundwater quality data and antidegradation objectives for the Bedford, Lee Lake, and Warm Springs GMZs, neither agency was able to quantify the TDS concentration impacts to these GMZs. On June 24, 2013 the Elsinore Valley MWD and Eastern MWD submitted a TDS offset plan for the discharges in excess of the recycled water permits limits. The plan included the development of a Salt and Nutrient Management Plan (SNMP) for the Upper Temescal Valley GMZ that combines Bedford, Lee Lake, and Warm Springs Valley GMZs. The scope of the SNMP would include developing scientifically defensible TDS and nitrate antidegradation water quality objectives for the Upper Temescal Valley GMZ and a management plan to ensure that recycled water discharge and reuse do not cause exceedances of the water quality objectives. The TDS offset plan was approved by the Executive Officer of the Santa Ana Water Board (Executive Officer) on June 24, 2013.

12. On October 9, 2017, the Executive Officer accepted the final SNMP for the Upper Temescal Valley GMZ. The SNMP included recommended TDS and nitrate antidegradation objectives for the Upper Temescal Valley GMZ, estimates of current and projected ambient water quality, and an SNMP implementation plan.

13. The alternative, scientific-based methodology employed in the SNMP was based on historical conditions over the period of 1954 to 1973, consistent with the historical period utilized to establish antidegradation objectives in the 2004 Basin Plan amendment. Based on the methodology, the TDS and nitrate (as nitrogen) antidegradation objectives are 820 and 7.9 milligrams per liter (mg/L), respectively.

14. The implementation actions established in the SNMP to monitor and report on the TDS and nitrate concentration in the Upper Temescal Valley GMZ are:
    a. Develop and implement a data collection program, including a field surface water and groundwater monitoring program.
    b. Prepare a triennial report that describes Eastern MWD and Elsinore Valley MWD's source water supplies, potable and recycled water quality, and activities to manage TDS in these supplies.
    c. Participate in the Santa Ana River Watershed stakeholder efforts to periodically update the wasteload allocation analysis of recycled water discharges to the Santa Ana River and its tributaries.
    d. Develop salt offset strategies for the recycled water discharge that periodically exceed discharge permit limits by December 31, 2021
    e. Periodic update of the SNMP implementation actions.
    f. Annual reporting of progress and activities related to implementation of the SNMP.

15. Inclusion of the Upper Temescal Valley SNMP implementation plan into the Basin Plan is not an approval of any specific mitigation actions that may be proposed by Elsinore Valley MWD and/or Eastern MWD pursuant to its implementation. Approval of any such mitigation or other actions must follow standard Santa Ana Water Board procedures and requirements.

16. The Santa Ana Water Board prepared and distributed a Public Notice, staff report, the proposed Basin Plan amendment, and the SED regarding adoption of the Basin Plan amendment in accordance with applicable State environmental regulations (California Code of Regulations, title 23, sections 3775–3782).

17. The Santa Ana Water Board has considered factors in establishing water quality objectives and an SNMP for the Upper Temescal Valley GMZ consistent with the State's antidegradation policy (State Water Board Resolution Number 68-16).The

proposed water quality objectives and management plan will assure the reasonable protection of the beneficial uses of the waters within the Region. The antidegradation analysis documented in Section 5 of the Staff Report demonstrates that current WDRs for discharges in the Upper Temescal Valley are compliant with the proposed TDS objective and that the degradation that will occur relative to current ambient nitrate concentrations is to the maximum benefit of the people of the State. Future WDRs will be consistent with the management plan.

18. The Santa Ana Water Board has considered factors in establishing water quality objectives for the Upper Temescal Valley GMZ consistent with California Water Code (CWC) 13421. Examinations of these factors can be found in Section 6 of the Staff Report.

19. The process of basin planning has been certified by the Secretary for Natural Resources as exempt from the requirement of the California Environmental Quality Act (CEQA; Public Resources Code section 21000 et seq.) to prepare an Environmental Impact Report (EIR) or a Negative Declaration (ND). The Basin Plan amendment package includes a staff report and Substitute Environmental Documentation (SED), which includes an Environmental Checklist, an assessment of the potential environmental impacts of the Basin Plan amendment, and a discussion of alternatives. The Basin Plan amendment, SED, staff report, and supporting documentation are functionally equivalent to an EIR or ND.

20. Pursuant to the State Water Board's regulations on implementing CEQA (CCR title 23, sec. 3777[a]), an analysis of reasonable alternatives to the proposed action was conducted in the SED.

21. Consistent with the CEQA Section 15187, the SED also includes an analysis of reasonably foreseeable alternative means of compliance with the rule or regulation to avoid or eliminate the identified impacts. The regulatory compliance alternatives analyzed in the SED: (1) assume that existing TDS concentration limitations for the Elsinore Valley MWD and Eastern MWD's waste discharge permit limits are protective of beneficial use and construct salt offset facilities to mitigate future salt loading in excess of discharge limits in the Bedford, Lee Lake, and Warm Springs Valley sub-basins, and (2) use an alternative methodology to establish TDS and nitrate objectives in each sub-basin. It was determined in the SNMP that the salt offset facilities are not necessary to protect beneficial uses, are not cost-effective, and there is not a hydrogeological rationale nor sufficient groundwater quality data to establish separate objectives for each sub-basin area in the Upper Temescal Valley GMZ.

22. A CEQA scoping meeting was held on June 20, 2018 to provide interested parties the opportunity to comment on the appropriate scope and content of the SED that was prepared for the proposed Basin Plan amendments. Any comments received in the response to the scoping meeting were considered in preparing the subsequent environmental analysis.

23. Based on the environmental analyses described in the SED, the Santa Ana Water Board finds that the proposed amendment will not result in any foreseeable significant adverse environmental impacts; therefore, no mitigation measures are proposed or analyzed.

24. Pursuant to the California Health and Safety Code Section 57004, the Upper Temescal Valley SNMP, SED and the Staff Report were submitted for external scientific peer review in 2019. The reviewers found that the proposed regulatory action to adopt the proposed TDS and nitrate antidegradation objectives and associated SNMP implementation plan is based on scientifically defensible information. Comments from peer reviewers were addressed in May 2020, and the responses to comments are included in Attachment Y.

25. The Basin Plan amendment will result in revisions to the Basin Plan Chapters 3 “Beneficial Uses”, 4 “Water Quality Objectives”, and 5 “Implementation”.

26. The Basin Plan amendment must be submitted for review and approval by the State Water Board and by the OAL. Because the proposed Basin Plan amendment makes no changes to water quality standards for surface waters or effluent limits in any NPDES permit, U.S. EPA approval is not required. The Basin Plan amendment will become effective upon OAL approval. A Notice of Decision will then be filed.

27. As demonstrated by the findings above and the record as a whole, the Basin Plan amendment meets the “necessity” standard of the Administrative Procedure Act, Government Code, section 11353, subdivision (b).

NOW, THEREFORE, BE IT RESOLOVED THAT:

1. The Santa Ana Water Board has reviewed and considered the record for this matter, including the information contained in the SED, all written comments, and all oral testimony provided at the public hearing held on October 16, 2020.

2. The Santa Ana Water Board hereby approves and certifies the SED.

3. The Santa Ana Water Board hereby adopts the Basin Plan amendment delineated in Attachment A (underline/strike-out version) and Attachment B

(clean version) to this resolution which replaces the Bedford, Lee Lake, and Warm Springs GMZs with the Upper Temescal Valley GMZ and identifies beneficial uses, establishes antidegradation TDS and nitrate objectives, and defines a specific salt and nutrient implementation plan for the Upper Temescal Valley GMZ.

4. The Executive Officer is directed to forward copies of the Basin Plan amendment, and related Administrative Record, to the State Water Board in accordance with the requirements in Section 13245 of the California Water Code.

5. The Santa Ana Water Board requests that the State Water Board review and approve the Basin Plan amendment in accordance with the requirements of Section 13245 and 14246 of the California water Code and, thereafter, forward the amendments to OAL for approval.

6. If, during its approval process, the State Water Board or OAL determine that minor, non-substantive corrections to the language of the amendments are needed for clarity or for consistency, the Executive Officer may make such changes and shall inform the Reginal Board forthwith.

7. The Executive Officer is directed, at the time of filing and posting the Notice of Decision, to take steps to promptly ensure payment of application fee to the California Department of Fish and Wildlife for its review of the SED for this Basin Plan amendment or to file a Certificate of Fee Exemption, whichever is applicable.

I, Hope A. Smythe, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of Resolution R8-2020-0038 adopted by the California Regional Water Quality Control Board, Santa Ana Region, on October 16, 2020.

_____

Hope A. Smythe

Executive Officer

Attahment A

to Resolution No. R8-2020-0038

(Proposed Basin Plan amendment changes are shown as ~~strikeout~~ for deletions and underline for additions)

***Chapter 3. Beneficial Uses* -- Table 3-1 BENEFICIAL USES – Continued (PAGE 3-48)**

GROUNDWATER MANAGEMENT ZONES	BENEFICIAL USE																		Hydrologic Unit	
	MUN	AGR	IND	PROC	GWR	NAV	POW	REC1	REC2	COMM	WARM	LWRM	COLD	BIOL	WILD	RARE	SPWN	EST	Primary	Secondary
San Timoteo	X	X	X	X															801.62	801.61
Yucaipa	X	X	X	X															801.61	801.55, 801.63, 801.67
MIDDLE SANTA ANA RIVER BASIN																				
Arlington	X	X	X	X															801.26	
~~Bedford~~	~~X~~	~~X~~	~~X~~	~~X~~															~~801.32~~	~~481.31~~
Coldwater	X	X	X	X															801.31	
Elsinore	X	X		X															802.31	
~~Lee Lake~~	~~X~~	~~X~~	~~X~~	~~X~~															~~801.34~~	
Riverside - A	X	X	X	X															801.27	801.44
Riverside – B	X	X	X	X															801.27	801.44
Riverside - C	X	X	X	X															801.27	
Riverside - D	X	X	X	X															801.27	801.26
Riverside - E	X	X	X	X															801.27	
Riverside - F	X	X	X	X															801.27	
Temescal	X	X	X	X															801.25	
~~Warm Spring Valley~~	~~X~~	~~X~~	~~X~~	~~X~~															~~801.31~~	
Upper Temescal Valley	X	X	X	X															801.32	

X Present or Potential Beneficial Use
I Intermittent Beneficial Use

+ Excepted from MUN (see text)

***Chapter 4. Water Quality Objectives* -- Table 4-1 WATER QUALITY OBJECTIVES – Continued (PAGES 4-57 and 4-58)**

GROUNDWATER MANAGEMENT ZONES	WATER QUALITY OBJECTIVES (mg/l)						Hydrologic Unit	
	Total Dissolved Solids	Hardness	Sodium	Chloride	Nitrate as Nitrogen	Sulfate	Primary	Secondary
UPPER SANTA ANA RIVER BASIN								
Cucamonga "antidegradation"++	210	---	---	---	2.4	---	801.24	801.21
Lytle	260	---	---	---	1.5	---	801.41	801.42
Rialto	230	---	---	---	2.0	---	801.41	801.42
San Timoteo "maximum benefit"++	400	---	---	---	5.0	---	801.62	
San Timoteo "antidegradation"++	300	---	---		2.7	---	801.62	
Yucaipa "maximum benefit"++	370	---	---	---	5.0	---	801.61	801.55, 801.54, 801.56, 801.63, 801.65, 801.66 801.67
Yucaipa "antidegradation"++	320	---	---	---	4.2	---	801.61	801.55, 801.54, 801.56, 801.63, 801.65, 801.66 801.67
MIDDLE SANTA ANA RIVER BASIN								
Arlington	980	---	---	---	10	---	801.26	
~~Bedford**~~	~~---~~	~~---~~	~~---~~	~~---~~	~~---~~	~~---~~	~~801.32~~	
Coldwater	380	---	---	---	1.5	---	801.31	
Elsinore	480	---	---	---	1.0	---	802.31	
~~Lee Lake**~~	~~---~~	~~---~~	~~---~~	~~---~~	~~---~~	~~---~~	~~801.34~~	

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++ "Maximum benefit" objectives apply unless Regional Board determines that lowering of water quality is not of maximum benefit to the people of the state; in that case, "antidegradation" objectives apply (for Chino North, antidegradation objectives for Chino 1, 2, 3 would apply if maximum benefit is not demonstrated). (see discussion in Chapter 5).

** Numeric objectives not established; narrative objectives apply

Table 4-1 WATER QUALITY OBJECTIVES – Continued

GROUNDWATER MANAGEMENT ZONES	WATER QUALITY OBJECTIVES (mg/l)						Hydrologic Unit	
	Total Dissolved Solids	Hardness	Sodium	Chloride	Nitrate as Nitrogen	Sulfate	Primary	Secondary
Riverside - A	560	---	---	---	6.2	---	801.27	
Riverside - B	290	---	---	---	7.6	---	801.27	
Riverside - C	680	---	---	---	8.3	---	801.27	
Riverside - D	810	---	---	---	10.0	---	801.27	
Riverside - E	720	---	---	---	10.0	---	801.27	
Riverside - F	660	---	---	---	9.5	---	801.27	
Temescal	770	---	---	---	10.0	---	801.25	
~~Warm Springs Valley**~~	---	--	---	---	---	---	~~801.31~~	
Upper Temescal Valley	820	---	---	---	7.9	---	801.32	
SAN JACINTO RIVER BASIN								
Gardner Valley	300	100	65	30	2.0	40	802.22	
Idyllwild Area**	---	---	---	---	---	---	802.22	802.21
Canyon	230	---	---	---	2.5	---	802.21	
Hemet - South	730	---	---	---	4.1	---	802.15	802.21
Lakeview – Hemet North	520	---	---	---	1.8	---	802.14	802.15

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** Numeric objectives not established; narrative objectives apply

SECTION #. Upper Temescal Valley SNMP

In 2020, the Regional Board amended the Basin Plan to incorporate Total Dissolved Solid (TDS) and nitrate antidegradation objectives for the Upper Temescal Valley groundwater management zone (GMZ) that combines Bedford, Lee Lake and Warm Springs Valley GMZs. Prior to the Basin Plan Amendment, these three GMZs did not have numeric antidegradation objectives. To support the reuse and discharge of recycled water in the Upper Temescal Valley, the Regional Board required that the Elsinore Valley Municipal Water District (Elsinore Valley MWD) and the Eastern Municipal Water District (Eastern MWD) prepare a salt and nutrient management plan for the Upper Temescal Valley GMZ. The Upper Temescal Valley SNMP was completed in 2017 and included the following management actions:

(1) Develop and implement a data collection program, including a new field surface water and groundwater monitoring program. The monitoring program was developed in 2017 and implementation began in 2018. Future annual monitoring reports shall be submitted by April 15 of each year.

(2) Prepare a triennial report that describes each agency's source water supplies, potable and recycled water quality, and the current and potential future management activities to support management of TDS in these water supplies. The first triennial report was completed in 2018. Future reports are by due December 31, 2021 and every three years thereafter.

(3) Participation in the Santa Ana River Watershed stakeholder efforts to periodically update the wasteload allocation analysis of recycled water discharges to the Santa Ana River and its tributaries.

(4) Develop salt offset strategies for recycled water discharges that exceed discharge permit limits, no later than December 31, 2021.

(5) Periodic recomputation of current and projected TDS and nitrate concentrations in the Upper Temescal Valley. The first update is due in October 30, 2020. Future updates will be consistent with the frequency and timing of SNMP reviews performed by Basin Monitoring Program Task Force and approved by the Regional Board in accordance with the 2018 Recycled Water Policy.

(6) Periodic update of the SNMP implementation actions. The first update is due in October 30, 2020.

(7) Annual reporting of progress and activities related to implementation of the SNMP. The first annual report was completed in April 2019. The future annual reports are due by April 15 of each year.

The specific tasks and associated frequency of activities under each of these management actions will be adapted over time due to improved understanding of hydrogeology and water quality or changed planning conditions. To continue to reuse and/or discharge recycled water in the Upper Temescal Valley Watershed and remain in compliance with associated waste discharge permits and the Basin Plan, the Elsinore Valley MWD and the Eastern MWD must

demonstrate to the satisfaction of the Executive Officer that they are in compliance with the most current, approved version of the Upper Temescal Valley SNMP.

***Chapter 3. Beneficial Uses* -- Table 3-1 pENEFICIAL USES – Continued (PAGE 3-48)**

GROUNDWATER MANAGEMENT ZONES	BENEFICIAL USE																		Hydrologic Unit	
	MUN	AGR	IND	PROC	GWR	NAV	POW	REC1	REC2	COMM	WARM	LWRM	COLD	BIOL	WILD	RARE	SPWN	EST	Primary	Secondary
San Timoteo	X	X	X	X															801.62	801.61
Yucaipa	X	X	X	X															801.61	801.55, 801.63, 801.67
MIDDLE SANTA ANA RIVER BASIN																				
Arlington	X	X	X	X															801.26	
Coldwater	X	X	X	X															801.31	
Elsinore	X	X		X															802.31	
Riverside - A	X	X	X	X															801.27	801.44
Riverside – B	X	X	X	X															801.27	801.44
Riverside - C	X	X	X	X															801.27	
Riverside - D	X	X	X	X															801.27	801.26
Riverside - E	X	X	X	X															801.27	
Riverside - F	X	X	X	X															801.27	
Temescal	X	X	X	X															801.25	
Upper Temescal Valley	X	X	X	X															801.32	

X Present or Potential Beneficial Use
I Intermittent Beneficial Use
+ Excepted from MUN (see text)

Chapter 4. Water Quality Objectives -- **Table 4-1 WATER QUALITY OBJECTIVES – Continued (PAGES 4-57 and 4-58)**

GROUNDWATER MANAGEMENT ZONES	WATER QUALITY OBJECTIVES (mg/l)						Hydrologic Unit	
	Total Dissolved Solids	Hardness	Sodium	Chloride	Nitrate as Nitrogen	Sulfate	Primary	Secondary
UPPER SANTA ANA RIVER BASIN								
Cucamonga “antidegradation”++	210	---	---	---	2.4	---	801.24	801.21
Lytle	260	---	---	---	1.5	---	801.41	801.42
Rialto	230	---	---	---	2.0	---	801.41	801.42
San Timoteo “maximum benefit”++	400	---	---	---	5.0	---	801.62	
San Timoteo “antidegradation”++	300	---	---		2.7	---	801.62	
Yucaipa “maximum benefit”++	370	---	---	---	5.0	---	801.61	801.55, 801.54, 801.56, 801.63, 801.65, 801.66 801.67
Yucaipa “antidegradation”++	320	---	---	---	4.2	---	801.61	801.55, 801.54, 801.56, 801.63, 801.65, 801.66 801.67
MIDDLE SANTA ANA RIVER BASIN								
Arlington	980	---	---	---	10	---	801.26	
Coldwater	380	---	---	---	1.5	---	801.31	
Elsinore	480	---	---	---	1.0	---	802.31	

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++ “Maximum benefit” objectives apply unless Regional Board determines that lowering of water quality is not of maximum benefit to the people of the state; in that case, “antidegradation” objectives apply (for Chino North, antidegradation objectives for Chino 1, 2, 3 would apply if maximum benefit is not demonstrated). (see discussion in Chapter 5).

** Numeric objectives not established; narrative objectives apply

Table 4-1 WATER QUALITY OBJECTIVES – Continued

GROUNDWATER MANAGEMENT ZONES	WATER QUALITY OBJECTIVES (mg/l)						Hydrologic Unit	
	Total Dissolved Solids	Hardness	Sodium	Chloride	Nitrate as Nitrogen	Sulfate	Primary	Secondary
Riverside - A	560	---	---	---	6.2	---	801.27	
Riverside - B	290	---	---	---	7.6	---	801.27	
Riverside - C	680	---	---	---	8.3	---	801.27	
Riverside - D	810	---	---	---	10.0	---	801.27	
Riverside - E	720	---	---	---	10.0	---	801.27	
Riverside - F	660	---	---	---	9.5	---	801.27	
Temescal	770	---	---	---	10.0	---	801.25	
Upper Temescal Valley	820	---	---	---	7.9	---	801.32	
SAN JACINTO RIVER BASIN								
Gardner Valley	300	100	65	30	2.0	40	802.22	
Idyllwild Area**	---	---	---	---	---	---	802.22	802.21
Canyon	230	---	---	---	2.5	---	802.21	
Hemet - South	730	---	---	---	4.1	---	802.15	802.21
Lakeview – Hemet North	520	---	---	---	1.8	---	802.14	802.15

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** Numeric objectives not established; narrative objectives apply

SECTION #. Upper Temescal Valley SNMP

In 2020, the Regional Board amended the Basin Plan to incorporate Total Dissolved Solid (TDS) and nitrate antidegradation objectives for the Upper Temescal Valley groundwater management zone (GMZ) that combines Bedford, Lee Lake and Warm Springs Valley GMZs. Prior to the Basin Plan Amendment, these three GMZs did not have numeric antidegradation objectives. To support the reuse and discharge of recycled water in the Upper Temescal Valley, the Regional Board required that the Elsinore Valley Municipal Water District (Elsinore Valley MWD) and the Eastern Municipal Water District (Eastern MWD) prepare a salt and nutrient management plan for the Upper Temescal Valley GMZ. The Upper Temescal Valley SNMP was completed in 2017 and included the following management actions:

(1) Develop and implement a data collection program, including a new field surface water and groundwater monitoring program. The monitoring program was developed in 2017 and implementation began in 2018. Future annual monitoring reports shall be submitted by April 15 of each year.

(2) Prepare a triennial report that describes each agency's source water supplies, potable and recycled water quality, and the current and potential future management activities to support management of TDS in these water supplies. The first triennial report was completed in 2018. Future reports are by due December 31, 2021 and every three years thereafter.

(3) Participation in the Santa Ana River Watershed stakeholder efforts to periodically update the wasteload allocation analysis of recycled water discharges to the Santa Ana River and its tributaries.

(4) Develop salt offset strategies for recycled water discharges that exceed discharge permit limits, no later than December 31, 2021.

(5) Periodic recomputation of current and projected TDS and nitrate concentrations in the Upper Temescal Valley. The first update is due in October 30, 2020. Future updates will be consistent with the frequency and timing of SNMP reviews performed by Basin Monitoring Program Task Force and approved by the Regional Board in accordance with the 2018 Recycled Water Policy.

(6) Periodic update of the SNMP implementation actions. The first update is due in October 30, 2020.

(7) Annual reporting of progress and activities related to implementation of the SNMP. The first annual report was completed in April 2019. The future annual reports are due by April 15 of each year.

The specific tasks and associated frequency of activities under each of these management actions will be adapted over time due to improved understanding of hydrogeology and water quality or changed planning conditions. To continue to reuse and/or discharge recycled water in the Upper Temescal Valley Watershed and remain in compliance with associated waste discharge permits and the Basin Plan, the Elsinore Valley MWD and the Eastern MWD must

demonstrate to the satisfaction of the Executive Officer that they are in compliance with the most current, approved version of the Upper Temescal Valley SNMP.

SUBSTITUTE ENVIRONMENTAL DOCUMENT FOR THE SALT AND NUTRIENT MANAGEMENT PLAN FOR THE UPPER TEMESCAL VALLEY WATERSHED

Prepared for:

Elsinore Valley Municipal Water District
P.O. Box 3000
31315 Chaney Street
Lake Elsinore, California 92530

and

Eastern Municipal Water District
2270 Trumble Road
Perris, California 92572

For Submittal to:

California Regional Water Quality Control Board, Santa Ana Region
3737 Main Street #500
Riverside, California 92501

Prepared by:

Tom Dodson & Associates
2150 N. Arrowhead Avenue
San Bernardino, California 92405
(909) 882-3612

February 2019

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APPENDICES

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SUBSTITUTE ENVIRONMENTAL DOCUMENT

A. INTRODUCTION

As a Lead Agency, the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana Water Board or Regional Board) is required to comply with the California Environmental Quality Act (CEQA) when considering amendments to the Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin. Elsinore Valley Municipal Water District (EVMWD or Elsinore Valley) and Eastern Municipal Water District (EMWD or Eastern) applied to the Regional Board for a Basin Plan amendment to establish antidegradation water quality objectives for the Upper Temescal Valley Groundwater Management Zone (GMZ) and incorporate the Salt and Nutrient Management Plan (SNMP) for the Upper Temescal Valley (WEI, 2017). The Upper Temescal Valley GMZ is a newly delineated GMZ that spans the 22-mile stretch of alluvial aquifer underlying the unlined reach of Temescal Wash from Lake Elsinore to the boundary of the Temescal GMZ, where Temescal Wash becomes a lined channel. The SNMP includes documentation of the technical work to define the GMZ boundary and establish scientifically-based objectives, and the management actions required to manage salinity in the GMZ.

The Upper Temescal Valley SNMP was developed collaboratively with Elsinore Valley and Eastern from 2012 to 2017. The final SNMP report was received by the Regional Board on October 9, 2017 and was approved by the Executive Officer on November 7, 2017. This Substitute Environmental Document (SED) has been prepared to address the potential environmental effects of an action involving an amendment to the Basin Plan to incorporate new Total Dissolved Solids (TDS) and nitrate (as nitrogen) objectives for the Upper Temescal Valley GMZ and adopt the Upper Temescal Valley SNMP (Proposed Action). A more detailed description of the Proposed Action is provided in Section D: Description of the Proposed Action, and a summary of the overall environmental setting is described in Section E: Surrounding Land Uses and Setting.

The SED includes an Environmental Checklist that serves as the basis for a systematic evaluation of the potential for the amendment to result in an adverse environmental impact relative to a variety of environmental factors, such as biological resources, recreation, water quality and other such topics as presented in Section F: Environmental Checklist. Section G includes a discussion of alternatives to the Proposed Action.

B. CEQA REQUIREMENTS

Section 21080.5 of the Public Resources Code authorizes the Secretary for Resources to certify State regulatory programs, designed to meet the goals of CEQA, as exempt from its requirements to prepare an Environmental Impact Report, Negative Declaration, or Initial Study. The State Water Resources Control Board's (State Water Board) and the Regional Board's Basin Plan Amendment (BPA) process is a Certified Regulatory Program and is therefore exempt from CEQA's requirements to prepare such documents [14 CCR 15251(g)][11].

The State Water Board's CEQA Implementation regulations (23 CCR 3720 et seq.) describe the environmental documents required for BPA actions. Section 3777 states:

a) *Any standard, rule, regulation, or plan proposed for board approval or adoption must be accompanied by a completed Environmental Checklist contained in Appendix A to this*

[1] 14 CCR 15251(g) means Title 14 California Code of Regulations, Section 15251(g).

subchapter or such other completed checklist as may be prescribed by the board, and a written report prepared for the board, containing the following

1. *A brief description of the proposed activity;*
2. *Reasonable alternatives to the proposed activity; and*
3. *Mitigation measures to minimize any significant adverse environmental impacts of the proposed activity.*

b) Upon completion of the written report, the board shall provide a Notice of Filing of the report to the public and to any person who requests, in writing, such notification.

The board shall not take action on the proposed activity until 45 days after the Notice of Filing contained in Appendix C to this subchapter has been provided.

C. SCOPE OF ENVIRONMENTAL ANALYSIS

CEQA has special provisions that establish the scope of the environmental analysis required for the adoption of this Basin Plan Amendment. CEQA limits the scope of an environmental analysis of the reasonably foreseeable methods of compliance with the amendment. As previously stated, the State Water Board's CEQA Implementation Regulations for Certified Regulatory Programs (23 CCR 3777) require the environmental analysis to include at least the following:

1. A brief description of the proposed activity. In this case, the proposed activity is the Basin Plan Amendment. The amendment is described under "D: Description of the Proposed Activity".

2. Reasonable alternatives to the proposed activity (discussed under "G: Reasonable Alternatives to the Proposed Activity").

3. Mitigation measures to minimize any significant adverse environmental impacts of the proposed activity (discussed under "F: Environmental Checklist").

Additionally, CEQA [PRC 21159(a)] and the CEQA Guidelines [14 CFR 15187(c)] require the following components, some of which are repetitive of the list above:

1. An analysis of the reasonable foreseeable environmental impacts of the methods of compliance. These methods may be employed to comply with the Basin Plan amendment. Reasonably foreseeable methods of compliance are described in Section D. Section F identifies the environmental impacts associated with the methods of compliance.

2. An analysis of the reasonably foreseeable feasible mitigation measures relating to those impacts. This discussion is also in Section F.

3. An analysis of reasonably foreseeable alternative means of compliance with the rule or regulation, which would avoid or eliminate the identified impacts. This discussion is in Section D.

Additionally, the CEQA Guidelines [14 CCR 15187(d), PRC 21159(c)] require the environmental analysis take into account a reasonable range of:

1. Environmental Factors (Section F),
2. Economic Factors (Section D),
3. Technical Factors (Section D),
4. Population (Section D),
5. Geographic Areas (Section E), and
6. Specific Sites (Section E).

A "reasonable range" does not require an examination of every specific project site, but a reasonably representative sampling of them. The statute [PRC 21159(d)] specifically states that the agency shall not conduct a "project level analysis". Rather, a project level analysis must be performed by the agencies that are required to implement the programs in accordance with the Basin Plan Amendment (PRC 21159.2). Notably, the California Regional Water Quality Control Board, Santa Ana Region is prohibited from specifying the manner of compliance with its regulations (WC 13360), and accordingly, the actual environmental impacts will necessarily depend upon the compliance strategy selected by the agencies that are required to implement the programs in accordance with the Basin Plan Amendment. In preparing this Basin Plan Amendment, the California Regional Water Quality Control Board, Santa Ana Region has considered the pertinent requirements of State law (PRC 21159 and 14 CCR 15187), and intends this analysis to serve as a Tier 1 environmental review.

Any potential environmental impacts associated with the Basin Plan Amendment depend upon the specific compliance projects selected by the agencies that are required to implement the programs in accordance with the Basin Plan Amendment, most of which are public agencies and subject to their own CEQA obligations. If not properly implemented or mitigated at the project level, there could be adverse environmental impacts from implementing projects in accordance with the Basin Plan Amendment. The Substitute CEQA Documents identify broad mitigation approaches that could be considered at the project level. Consistent with CEQA, the substitute documents do not engage in speculation or conjecture, but rather consider the reasonably foreseeable methods of compliance, the reasonably foreseeable mitigation measures, and the reasonably foreseeable alternative means of compliance, which would avoid, eliminate, or reduce the identified impacts.

D. DESCRIPTION OF THE PROPOSED ACTIVITY

Regulatory Setting

In 1995 the Regional Board initiated a collaborative study with 22 water supply and wastewater agencies—the TIN/TDS Task Force (now the Basin Monitoring Program Task Force, or Task Force)—to devise a new TDS and nitrogen management plan for the Santa Ana Watershed. This study culminated in the Regional Board's adoption of a Basin Plan amendment in January 2004 (Regional Board, 2004). This amendment included revised groundwater subbasin boundaries, termed "groundwater management zones" (GMZs), revised TDS and nitrate-nitrogen objectives for groundwater, revised TDS and nitrogen wasteload allocations, revised surface water reach designations, and revised TDS and nitrogen objectives and beneficial uses for specific surface waters. The technical work supporting the 2004 Basin Plan amendment was directed by the TIN/TDS Task Force and is summarized in *TIN/TDS Phase 2A: Tasks 1 through 5, TIN/TDS Study of the Santa Ana Watershed* (WEI, 2000). The new TDS and nitrate-nitrogen objectives for the GMZs in the Santa Ana Watershed were established to ensure that water quality is maintained pursuant to the State's antidegradation policy (State Board Resolution No. 68-16). These objectives were termed "antidegradation" objectives. The 2004 Basin Plan amendment also

included a requirement to triennially calculate current ambient TDS and nitrate concentration in all GMZs to compare current water quality with the antidegradation objectives and compute assimilative capacity.

The Regional Board manages salinity in the Santa Ana River Basin, in part, by regulating the discharge and reuse of recycled water. TDS and nitrate concentration limitations for recycled water discharge and reuse are set by the Regional Board based on the Wasteload Allocation for surface waters in the Santa Ana River Watershed and the antidegradation objectives and ambient TDS and nitrate concentrations of the receiving GMZs.

In the case of surface water, the combined recycled water discharge plans of all dischargers in the Santa Ana River Watershed are evaluated simultaneously to assess the discharge and associated TDS and nitrogen concentration impacts from storm, recycled water, and other discharges to the Santa Ana River and its tributaries. The Wasteload Allocation Model (WLAM), first developed by Wildermuth Environmental Inc. (WEI) to support the 2004 Basin Plan Amendment, is the Regional Board's current planning tool of record for the evaluation of wasteload allocations in the Santa Ana Watershed to determine if recycled water limitations need to be changed to protect surface water quality in the Santa Ana River. The WLAM has been used in subsequent analysis of wasteload allocation in 2010 and 2015 and is also used from time to time by various dischargers to review proposed recycled water discharge alternatives.

In the case of groundwater, the TDS and nitrate antidegradation objectives of a GMZ (set based on the historical ambient water quality for the period 1954-1973) are compared to the current ambient concentrations (recomputed every three years) to determine if recycled water limitations need to be changed to protect against groundwater quality degradation in the receiving GMZ. The standard methodology for computing ambient water quality in GMZs requires a minimum spatial coverage of wells with sufficient data across the GMZ, where sufficient data from a well is defined as a minimum of three TDS and nitrate concentration determinations in three different years over a 20-year contiguous period (WEI, 2000).

In each assessment of ambient water quality in the Upper Temescal Valley Watershed, there was an insufficient spatial distribution of data to compute ambient water quality for the Bedford, Lee Lake, and Warm Springs Valley GMZs. Furthermore, historical data were insufficient both spatially and temporally in these GMZs to define the aquifer storage properties required to compute an antidegradation objective per the standard methodology (WEI, 2014a). Thus, the technical information needed by the Regional Board to regulate waste discharges in the Upper Temescal Valley Watershed pursuant to the Basin Plan is not available.

In the Upper Temescal Valley, the Regional Board regulates the discharge and reuse of recycled water produced by Elsinore Valley, Eastern, the City of Corona and the Temescal Valley Water District. Both Elsinore Valley and Eastern have discharged recycled water with TDS concentrations in the Upper Temescal Valley in excess of the discharge limits specified in Regional Board Order No. R8-2013-0017 and R8-2009-0014, respectively. As a result of these exceedances, the Regional Board required Elsinore Valley and Eastern to evaluate the impact of its discharges on the GMZs in the Upper Temescal Valley and implement a salt offset program.

The Regional Board regulates discharges from the Elsinore Valley Regional Wastewater Reclamation Facility under Order No. R8-2013-0017 (NPDES Permit No. CA8000027). The TDS and total inorganic nitrogen (TIN) limits are as follows:

- 700 milligrams per liter (mg/L) TDS, as measured by the 12-month running average concentration to the Temescal Wash; and,
- 13 mg/L TIN, as measured by the 12-month running average concentration to the Temescal Wash.

The Regional Board regulates Eastern's discharges, which are made up of flows from four regional water reclamation facilities (RWRFs): San Jacinto Valley RWRF, Moreno Valley RWRF, Perris Valley RWRF, and Temecula Valley RWRF. The TDS and TIN limits are specified in Regional Board Order No. R8-2009-0014 as follows:

- 650 mg/L TDS, as measured by the 12-month running average concentration to the Temescal Wash; and
- 10 mg/L nitrate, as measured by the 12-month running average concentration to the Temescal Wash.

Background/Introduction to the Upper Temescal Valley SNMP

The Upper Temescal Valley SNMP is a joint management plan, prepared by Elsinore Valley and Eastern. Elsinore Valley and Eastern are public agencies and are responsible for municipal water supply and wastewater services. Wastewater services include the treatment of wastewater generated in their respective service areas and the subsequent discharge and reuse of treated wastewater, hereafter referred to as recycled water. The ultimate goal of the SNMP is to define the management activities that Elsinore Valley and Eastern will implement to comply with the TDS and nitrate antidegradation objectives established for the Upper Temescal Valley GMZ which is impacted by recycled water discharge and reuse in the Upper Temescal Valley Watershed.

The Upper Temescal Valley GMZ is a proposed GMZ boundary that combines the existing Warm Springs, Lee Lake, and Bedford GMZs into one management unit, as shown on Figure 1. Prior to defining the SNMP management activities, technical work was required to establish defensible, scientifically based numerical groundwater quality objectives for the Upper Temescal Valley GMZ, based on historical ambient TDS and nitrate concentrations. A summary of the SNMP findings is documented herein. The work performed to develop the SNMP represents the most comprehensive modern effort to collect and summarize historical and current data and information on the water resources of the Upper Temescal Valley area.

<u>Elsinore Valley Municipal Water District Problem Statement</u>

Elsinore Valley owns and operates three wastewater treatment plants within its service area, shown on Figure 1: Railroad Canyon Water Reclamation Facility (WRF), Regional WRF, and Horsethief WRF. Recycled water from the Railroad Canyon WRF is discharged or reused in the watershed tributary to the Elsinore GMZ. Recycled water from the Regional WRF is discharged to Lake Elsinore (in the Elsinore GMZ) and to the Temescal Wash in the Upper Temescal Valley. And, recycled water from the Horsethief WRF is reused for irrigation or discharged to percolation ponds in the Upper Temescal Valley. Recycled water from the Horsethief WRF is reused for irrigation or discharged to percolation ponds in the Upper Temescal Valley.

In 2011, the Regional Board assessed mandatory minimum penalties on Elsinore Valley for discharging recycled water from the Regional WRF with TDS concentrations in excess of the discharge limitation of 700 mg/L, as measured by the 12-month running average concentration,

to the Temescal Wash. The discharge limitations for the Regional WRF are specified in Order No. R8-2013-0017 (NPDES Permit No. CA8000027). As part of the process to renew its prior Order (R8-2005-0003), the Regional Board required Elsinore Valley to prepare a salt offset plan to: (1) quantify the impact of its recycled water discharges in excess of 700 mg/L on the water quality of Reach 2 of the Santa Ana River (at Below Prado Dam) and the GMZs underlying the natural-bottom reach of the Temescal Wash, which include the Warm Springs, Lee Lake, and Bedford GMZs (e.g. the Upper Temescal Valley GMZ), and (2) propose a salt offset program to mitigate the mass of TDS discharged to the Temescal Wash that was in excess of the discharge limitations.

Elsinore Valley submitted a draft offset plan to the Regional Board on October 30, 2012 (MWH, 2012). The following are some of the conclusions of the draft report:

- The total offset required for recycled water discharges to the Temescal Wash with TDS concentrations in excess of 700 mg/L between 2005 and 2011 is 446.5 tons of TDS.
- Recycled water discharges in excess of 700 mg/L resulted in no impact to the TDS concentration of the Santa Ana River at Below Prado Dam, as modeled by the WLAM.
- The impact of recycled water discharges in excess of 700 mg/L on the water quality of the Warm Springs, Lee Lake, and Bedford GMZs could not be determined due to insufficient data: there are no historical or current ambient water quality concentrations for these GMZs to compare to the recycled water discharge concentrations.
- There are no cost-effective, beneficial mitigation facilities to remove 446.5 tons of TDS from the Warm Springs, Lee Lake, and Bedford GMZs.

In the absence of antidegradation objectives for the GMZs, the Regional Board proposed using "best professional judgment" as the means for setting a new TDS concentration discharge limitation for the Regional WRF. Generally, in the absence of antidegradation objectives, the Regional Board will either set discharge limitations that are protective of municipal drinking water quality standards or use recent water quality sample results to set antidegradation thresholds. The Basin Plan states that a TDS concentration of 1,000 mg/L is the beneficial use threshold and that 500 mg/L is preferable for drinking water supply[2]. Groundwater data available from wells showed that TDS concentrations across the three GMZs was highly varied, ranging between about 500 mg/L and 1,200 mg/L. Either approach could result in TDS compliance metrics with high compliance costs with no substantive benefit to the water quality of the Upper Temescal GMZ or the region.

Eastern Municipal Water District Problem Statement

Eastern owns and operates four active regional water reclamation facilities (RWRF) for the treatment of wastewater generated in its service area: the San Jacinto Valley RWRF, the Moreno Valley RWRF, the Perris Valley RWRF, and the Temecula Valley RWRF. Recycled water from the RWRFs is reused in Eastern's service area for a variety of non-potable uses, including agriculture, landscape irrigation, and industrial use. During peak outdoor water demand months

[2]The 500 mg/L desired threshold is a goal based on consumer preference. In certain areas of the Santa Ana River Watershed the TDS concentration in municipal supplies exceeds 500 mg/L, including the Elsinore Valley and Eastern services areas. In areas that use extensive amounts of Colorado River water or a blend of Colorado River and State Water Project water, the TDS concentration can exceed 500 mg/L. For example, the TDS concentration of water provided to Elsinore Valley and Eastern from the Metropolitan Water District of Southern California's Skinner treatment plant exceeds 500 mg/L about 60 percent of the time and has historically exceeded 700 mg/L when the supply to the plant is dominated by Colorado River water.

(the warmer summer months), when recycled water demand exceeds recycled water production, recycled water production is supplemented from storage facilities. During the cooler, wetter times of year when recycled water demands decrease, surplus recycled water is stored in recycled water storage ponds, either on-site at the RWRFs or off-site throughout Eastern's service area. When the volume of recycled water generated is in excess of Eastern's recycled water demand and storage capacity, recycled water is conveyed via pipeline to the Upper Temescal Valley and discharged to the Temescal Wash. The discharge to the Temescal Wash is typically a blend of recycled water from multiple RWRFs.

Eastern also faces TDS compliance issues for its recycled water discharges to the Temescal Wash, which are regulated under Regional Board Order No. R8-2009-0014. The TDS concentration limitation specified in R8-2009-0014 is 650 mg/L, as measured by the 12-month running average concentration. Eastern's discharges to the Temescal Wash are out of compliance with this limitation due to the high TDS concentrations of the source water supplies available in Eastern's service area (WEI, 2013a). Between 2008 and 2013, the annual volume weighted TDS concentration of discharges to Temescal Wash ranged between 670 mg/L and 770 mg/L.

Eastern had requested that the Regional Board raise the TDS limitation for its discharge to the Temescal Wash for R8-2009-0014. To support this action, Eastern was required to evaluate the impact of its recycled water discharges on Reach 2 of the Santa Ana River (at Below Prado Dam) for: (1) historical discharges in excess of 650 mg/L and (2) future discharges at limitations of 700 mg/L and 750 mg/L. This evaluation was done using the WLAM and the results showed that historical recycled water discharges in excess of 650 mg/L resulted in no impact to the TDS concentration of Reach 2 of Santa Ana River. The results also showed that future discharges at 700 mg/L or 750 mg/L would result in no measurable impact to the TDS concentration of Reach 2 (WEI, 2013b).

As was the case for Elsinore Valley's WLAM study, the impact of recycled water discharges on the water quality of the Warm Springs, Lee Lake, and Bedford GMZs could not be determined.

<u>Alternative Compliance Proposal for Recycled Water Discharge and Reuse in the Upper Temescal Valley</u>

In October 2012, Elsinore Valley and Eastern initiated discussions with the Regional Board to discuss a proposed alternative compliance strategy for the Upper Temescal Valley GMZs that included the following proposed actions:

- Develop an alternative, scientifically based methodology to calculate the historical ambient water quality for a newly delineated Upper Temescal Valley GMZ, combining the Warm Springs, Lee Lake, and Bedford GMZs into one single GMZ.
- Prepare an SNMP report that will document the technical work performed, include recommendations for setting antidegradation objectives for TDS and nitrate, define a monitoring program to collect the data needed to compute ambient water quality on an ongoing basis in the future, and include management actions to address any regulatory issues that arise as a result of the current and future recycled water plans of the agencies discharging and reusing recycled water in the Upper Temescal Valley.
- Elsinore Valley and Eastern will present the work to local and regional stakeholders throughout the process of developing the SNMP.

- The Regional Board will allow the Elsinore Valley and Eastern efforts to develop the SNMP to offset the historical TDS-related violations of permit conditions and any TDS-related violations of permit conditions that occur during the period in which the SNMP is being developed.

Regional Board staff was supportive of the concept proposal and asked that a write-up of the plan be developed for approval. A formal scope of work was submitted to the Regional Board on May 13, 2013 (WEI, 2013c) and approved in July 2013. The scope of work was later expanded in December 2014 based on additional work required by the Regional Board staff. The final scope of work to develop the Upper Temescal Valley SNMP included the following tasks:

1. Develop, apply, and document an alternative methodology to compute historical ambient TDS and nitrate concentrations for the Upper Temescal Valley GMZ[3];
2. Modify as appropriate, apply, and document the alternative methodology to estimate current ambient TDS and nitrate concentrations for the Upper Temescal Valley GMZ;
3. Apply and document the alternative methodology to project future ambient TDS and nitrate in the Upper Temescal Valley GMZ, based on the range of possible recycled water discharge and reuse plans in the watershed; and
4. Identify the regulatory challenges that arise from the implementation of recycled water discharge and reuse plans, and define an SNMP (including a monitoring plan) that addresses current and future TDS and nitrogen challenges, including recommendations for setting the Basin Plan antidegradation objectives for TDS and nitrate in the Upper Temescal Valley GMZ.

Salt and Nutrient Management Plan

Summary and Conclusions of Water Quality Analysis of the Upper Temescal Valley

The Regional board required Elsinore Valley and Eastern to develop the SNMP as an offset for violations of their TDS concentration limitations for discharges to the Temescal Wash that occurred from 2004 through the completion of the study. The objective of the data compilation and analyses documented in the SNMP, which is provided as Appendix 1 to this SED, was to characterize the hydrology and hydrogeology, the development of land use and water supplies from the 1930s to the present, and the impact that the development of the watershed has had on the hydrology and water quality of the Upper Temescal Valley GMZ.

More specifically, the objective was to develop a scientifically based, defensible alternative methodology to estimate historical and current ambient TDS and nitrate concentrations to establish Basin Plan objectives and determine if the recycled water TDS and nitrate concentration limitations established in the waste discharge permits issued to Elsinore Valley or Eastern need to be modified, based on the objective and current ambient concentrations.

The work performed to develop the SNMP represents the most comprehensive effort to collect, summarize, and analyze historical and current data and information on the water resources of the

[3]A written rationale for combining the three GMZs into one single GMZ was formally requested by the Regional Board in July 2014. This rationale was submitted to the Regional Board on September 8, 2014. The letter report documenting the Rationale for Creating the Upper Temescal Valley Groundwater Management Zone (WEI, 2014b) is included with the SNMP as Appendix A. The Regional Board verbally approved the creation of the Upper Temescal Valley GMZ as the unit of study at a progress meeting held on September 30, 2014.

Upper Temescal Valley. Sections 2 through 5 of the SNMP provide detailed documentation of the data and information collected and analyzed to establish recommended antidegradation objectives and management actions. The key findings are summarized below:

- The groundwater storage capacity of the Upper Temescal Valley GMZ is small, likely on the order of 75,000 acre-ft.

- Based on average annual recharge to the basin for historical and current times, the turnover of the groundwater basin is on the order of five to seven years. Thus, over a 20-year period, turnover might occur three to four times. For this reason, it is reasonable to expect the ambient water quality to be similar to the volume-weighted concentration of the recharge sources.

- Water quality data available from the 1950s to the present demonstrate that the water quality in the Upper Temescal GMZ is highly variable across space and time, and at individual wells. And, that water quality is significantly influenced by climate conditions: water quality improves over wet periods and degrades over dry periods. The TDS concentration varies at individual wells by 400 to 800 mg/L over a 20-year period. The water quality data supports the conclusions on basin storage capacity and turnover rates.

- Locally imported waters have been utilized in the Upper Temescal Valley Watershed since the late 1890s. Some sources relied upon in the early 1900s were very high in TDS concentration (greater than 1,000 mg/L), including water from Lake Elsinore and groundwater from the San Jacinto Valley. As the land was being developed through the 1970s, new sources of imported water were regularly introduced to meet growing water demands and to replace the abandoned poor-quality sources. The primary use of water through the 1970s was for irrigation of agricultural crops.

- Evapotranspiration (EV) is a significant source of outflow from the GMZ, and because the associated mass of TDS is not exported, EV results in the concentration of TDS in the GMZ.

- Historical ambient TDS and nitrate concentrations are estimated to be 822 and 7.9 mg/L respectively. The high ambient TDS and nitrate concentrations are explained by high-volume of high-TDS and high-nitrate concentration of the deep infiltration of applied water.

- Urban development accelerated after 1975. Although a significant portion of the Watershed remains undeveloped, urban land uses dominate the developed parts of the watershed, and the remaining irrigation uses are urban in character: homes, golf course, and parks. These uses are primarily served with high-quality, low-TDS sources of water, such as imported SWP water. There are some non-potable demands that are served exclusively with recycled water and high-TDS groundwater.

- Average annual recharge has increased over time with urban development. The development has increased the imperviousness of the watershed, resulting in greater storm-water runoff and, thus, greater streambed recharge volumes. And, recycled water discharges to the Temescal Wash were introduced in the 1980s, the TDS concentrations of which were lower than the historical ambient TDS concentration, which subsequently reduced the volume-weighted TDS concentration in the GMZ Groundwater Management

Zone.

- Current ambient TDS and nitrate concentrations are estimated to be 751 and 4.7 mg/L, respectively. The water quality improvement is explained by the increased recharge of low-TDS storm and recycled waters, relative to the historical ambient TDS concentration.

- Urbanization has resulted in less variability in the concentration of the recharge sources to the GMZ, reducing the variability of water quality measured at wells. That said, water quality still varies with climate conditions, just at a lesser magnitude today than occurred in the past. This observed change could be attributable to the reduction in the number of wells with TDS concentration measurements or a change in the recharge sources and their respective TDS concentrations.

- Water quality is projected to degrade over time due to changes in land use, but the projections show water quality will continue to vary with climate conditions. Groundwater production and recycled water discharges will influence ambient TDS in the Upper Temescal Valley GMZ, but will not be the primary factors driving degradation. Table D-1 summarizes the results of the future ambient water quality projections developed for eight future planning scenarios. Scenarios 1 and 2 represent projected water quality under current land use conditions and varying levels of groundwater production and recycled water discharge. Scenarios 3 and 4 represent projected water quality under build-out land use conditions and varying levels of groundwater production and recycled water discharge.

Table D-1
SUMMARY STATISTICS OF AMBIENT WATER QUALITY PROJECTIONS
FOR THE 65-YEAR PLANNING HYDROLOGY

Scenario	Projected Ambient TDS Concentrations (mg/L)			Projected Ambient Nitrate Concentrations (mg/L)		
	Minimum	Maximum	Average	Minimum	Maximum	Average
Scenario 1a	731	875	800	4.3	5.5	4.8
Scenario 1b	698	840	760	4.3	5.5	4.8
Scenario 2a	696	821	751	5.9	6.5	6.2
Scenario 2b	686	807	737	6.0	6.5	6.2
Scenario 3a	885	999	948	4.0	5.0	4.5
Scenario 3b	848	959	907	4.0	5.0	4.4
Scenario 4a	805	910	597	5.8	6.3	6.1
Scenario 4b	794	900	844	5.8	6.3	6.1

The TDS and Nitrate concentration projections for each scenario are described in depth under Section 5 of the SNMP, provided as Appendix 1.

- Groundwater production has significantly decreased over time. Future projections of ambient water quality demonstrated that increased groundwater production improves TDS concentrations by turning over the basin faster and creating more space for high-quality storm-water runoff and recycled water to recharge. Elsinore Valley and other agencies in

the Upper Temescal Valley are looking to increase production from the GMZ to improve local water supply reliability.

- Recycled water discharges will impact TDS and nitrate in different ways. A permanent reduction in recycled water discharges will result in increasing groundwater TDS concentrations relative to current ambient water quality because the quality of the recycled water discharges are all less than current ambient. That said, because the recycled water TDS concentrations are less than the historical ambient, they will not degrade the basin relative to historical ambient water quality. Conversely, nitrate concentrations will decrease relative to current ambient if recycled water discharges are reduced because the recycled water is higher in nitrate than the other recharges sources to the GMZ. Because of the stormwater dilution, the nitrate concentration is not projected to increase above the historical ambient concentration in the future.

- Although eight planning scenarios were developed to bracket a range of outcomes based on land use, recycled water discharge permits, and groundwater production, planning scenarios 1a and 1b represent the most probable TDS and nitrate concentration projections. These planning scenarios represent current land use conditions, low wastewater discharges similar to what has occurred in the last several years, and variations on groundwater production from low to high. Elsinore Valley, the TVWD, and the City of Corona are all investigating the feasibility of increasing production in the Upper Temescal Valley GMZ, and so scenario 1b (high production) is probable in the next five years.

- In the near-term (under scenario 1b) it should be expected that ambient TDS concentrations will remain below the historical ambient concentrations 100 percent of the time and will occasionally be lower than the Elsinore Valley's TDS discharge limitation of 700 mg/L (about 5 percent of the time). The implication is that Elsinore Valley would have minimal TDS regulatory compliance challenges—if they meet the discharge limitation—but they may be required to perform antidegradation analyses on a periodic basis to support their NPDES discharge permit renewals when current ambient is less than the permitted discharge limitation. The ambient TDS concentration is not projected to be below Eastern's current discharge limitation of 650 mg/L, and thus Eastern would have no TDS regulatory compliance challenges—if they meet the discharge limitation—because the discharge limitation is always less than historical and current ambient.

- In the near-term (under scenario 1b) it should be expected that ambient nitrate concentrations will also remain below the historical ambient concentrations 100 percent of the time and there will continue to be assimilative capacity for nitrate in the GMZ. The implication is that the existing nitrate discharge limitations of 13 and 10 mg/L can continue to be permitted, but to do so the dischargers will be required to perform antidegradation analyses and request access to assimilative capacity for each NPDES permit renewal cycle.

- The TDS concentrations of the Elsinore Valley and Eastern discharges that occurred in excess of their permit limitations were less than the historical ambient TDS concentration 100 percent of the time and less than the current ambient TDS concentration 82 and 90 percent of the time for the period of 2004-2014, respectively. Over the same period, when volume-weighted with the streambed recharge of storm-water runoff, the volume-

weighted TDS concentration was less than the current ambient TDS concentration 100 percent of the time. Thus, these exceedances did not result in an impairment of groundwater quality relative to historical or current ambient TDS concentrations.

- There is limited data available today to adequately characterize groundwater quality and storage. A new groundwater and surface water monitoring program is needed to validate the methods and findings described in this report and to support future efforts to recompute current and project future ambient water quality.

Recommended Basin Plan Objectives for the Upper Temescal Valley GMZ

The Upper Temescal Valley SNMP recommends that the Regional Board adopt TDS and nitrate antidegradation objectives for the Upper Temescal Valley in a manner consistent with the 2004 Basin Plan amendment. The 2004 antidegradation objectives were based on historical ambient water quality for the period of 1954 to 1973. The proposed antidegradation objectives are outlined below in Table D-2. Consistent with the 2004 Basin Plan, the historical TDS concentration values were rounded to the nearest ten to set the objective; and for nitrate, the historical concentration value was rounded to the nearest tenth.

Table D-2
PROPOSED ANTIDEGRADATION OBJECTIVES FOR TDS AND NITRATE

Constituent	Calculated Historical Ambient Concentration	Antidegradation Objective
TDS (mg/L)	822	820
Nitrate (mg/L)	7.9	7.9

As previously noted, based on near-term planning projections, it is expected that ambient TDS and nitrate concentrations will remain below the historical ambient concentrations 100 percent of the time, as shown in Table D-1 above. Concentrations will begin to increase as the Watershed is developed.

Antidegradation Analysis to Support Current TDS and Nitrate Discharge Limitations

Antidegradation analyses are performed in support of Waste Discharge Requirements and NPDES permit renewals when a GMZ has assimilative capacity for TDS and/or nitrate, and the proposed discharge has a concentration greater than the objective or the current ambient water quality and will have the potential to degrade water quality relative to the current ambient water quality concentration. If constituent concentrations are projected to increase relative to current ambient concentrations, the discharger must request an allocation of assimilative capacity for the discharge. Assimilative capacity is defined as the amount, in mg/L, of degradation that can occur before a GMZ exceeds its Basin Plan objective. The assimilative capacity available in the Upper Temescal Valley GMZ is shown in Table D-3. Note that just as with the objectives, the current ambient calculations are rounded.

Table D-3
ASSIMILATIVE CAPACITY FOR TDS AND NITRATE

Constituent	Antidegradation Objective	Current Ambient	Assimilative Capacity
TDS (mg/L)	820	750	70
Nitrate (mg/L)	7.0	4.7	3.2

Scenarios 1a and 1b represent the most likely near-term planning conditions and water quality projections. These planning scenarios represent current land use conditions, low wastewater discharges similar to what has occurred in the last several years, and variations on groundwater production from low to high. Increases in groundwater production are planned for the Upper Temescal Valley in the next five years. For this reason, Scenario 1b will be used for the purpose of the antidegradation analysis.

Total Dissolved Solids

In the case of TDS, there is 70 mg/L of assimilative capacity in the Upper Temescal Valley GMZ. Thus, any discharges with TDS concentrations in excess of the current ambient TDS concentration require a full antidegradation analysis to document the amount of assimilative capacity that will be used by the waste discharge. Currently, the Elsinore Valley TDS discharge limitation is 700 mg/L, and the Eastern limitation is 650 mg/L. As such, no allocation of assimilative capacity is required for Elsinore Valley or Eastern.

Although there are no regulatory compliance concerns as they relate to permitting Elsinore Valley's and Eastern's recycled water discharges at the existing TDS permit limitations established in the existing waste discharge permits, their discharges will continue to occasionally exceed the discharge limitations, thus requiring a salt mitigation strategy to be adopted.

Salt Offset Strategy for Violation of TDS Permit Limitations

During the recent drought (2012-2016), both Elsinore Valley and Eastern have seen the TDS concentrations of their recycled water effluent increase in response to the increase in the TDS concentration of their source water supplies and water conservation. The increase in the source water supply was driven by the increased use of CRA water relative to SWP water.

This is not a problem unique to Elsinore Valley and Eastern. Several agencies across the Santa Ana River Watershed, and elsewhere in Southern California, have seen similar increases in source water TDS concentrations and commensurate violations of permit TDS concentration limits. At the request of the Task Force, and through efforts lead by Eastern, the Regional Board is evaluating options to update its TDS management plan for regulating recycled water discharges during times of drought. Recognizing that the source water supplies available to the agencies in times of drought are often beyond the control of the agencies, the Regional Board is seeking to evaluate a variety of alternative management and permitting strategies that take these climate-driven occurrences into account. Development of this policy will involve extensive technical studies to demonstrate the impacts of the various management strategies developed for consideration.
The first technical study to evaluate the causes of increased TDS concentrations began in 2017 is being led by the Task Force. This study will then be used by the task force to begin evaluating alternative TDS permitting strategies. In lieu of developing a specific salt mitigation

strategy in the SNMP to address permit violations, Elsinore Valley and Eastern propose to participate in the Task Force efforts and will adopt and implement TDS management strategies that are consistent with any new Regional Board management plan. Participation in the Task Force study will be a management action under the SNMP.

Request to Increase the TDS Permit Limitations for Eastern Discharges to Temescal Wash

Discharges to the Temescal Wash have consistently violated Eastern's TDS permit limitation since 2004 because of high TDS concentrations in their source water supplies. Violations will continue if discharges occur in wet-periods. Therefore, Eastern is requesting to increase its TDS permit limitation to 700 mg/L. A limitation of 700 mg/L is less than both the historical and current ambient TDS of the Upper Temescal Valley GMZ.

To demonstrate the impact of the proposed permit limit increase on the TDS concentration of the Upper Temescal Valley GMZ, a new TDS concentration projection based on the planning assumptions for Scenario 1b was developed. Figure 2 shows the TDS concentration projections for Scenario 1b under the two TDS permit limits, holding all other assumptions constant. The summary statistics of the ambient TDS concentration projection are shown below in Table D-4. Table D-4 also shows the ten-year running average streambed recharge concentration in each of the two scenarios.

Table D-4
PROJECTED AMBIENT TDS AND 10-YEAR RUNNING AVERAGE TDS STREAMBED RECHARGE CONCENTRATIONS IN THE UPPER TEMESCAL VALLEY GMZ UNDER VARIOUS EASTERN TDS PERMIT LIMITS

Scenario	Projected Ambient TDS Concentrations (mg/L)			Projected 10-Year Running Average Streambed Recharge TDS Concentrations (mg/L)		
	Minimum	Maximum	Average	Minimum	Maximum	Average
Scenario 1b With Eastern TDS Permit Limit of 650 mg/L	698	840	760	322	480	398
Scenario 1b With Eastern TDS Permit Limit of 700 mg/L	715	856	778	340	511	421

Per the methods used by the Regional Board in the wasteload allocation analysis (see WEI, 2015b for example), the maximum of the ten-year average streambed recharge over a long-term hydrologic period is used to define the worst-case streambed recharge concentration and to determine if a recycled water discharge will degrade water quality relative to historical and current ambient concentrations or the objectives of the underlying GMZ.

A recycled water discharge concentration of 700 mg/L increases the minimum, maximum, and average ambient TDS concentration of the Upper Temescal Valley GMZ by about 18 mg/L over a 65-year planning hydrology (that contains representative wet, dry and average periods). This is an average increase of less than three percent. And, although the ten-year running average streambed recharge concentration also increases by about 23 mg/L on

average, it remains well below the current ambient TDS concentration: in the driest ten-year period (e.g. the maximum), the volume-weighted streambed recharge is projected to be about 511 mg/L. This result indicates that the other sources of high-TDS recharge, namely the deep infiltration of applied water (estimated to be about 2,000 mg/L), are the main drivers of ambient TDS concentration increases in the Upper Temescal Valley GMZ. Increasing the Eastern TDS permit limit will result in less dilution of the high-TDS recharge sources to the Upper Temescal GMZ.

An increase of the TDS permit limitation would increase the projected ambient TDS concentration relative to the existing status-quo conditions, and thus, an allocation of existing assimilative will be required. Additionally, an application to increase the TDS permit limit will also require a demonstration that the increased TDS concentration of the discharge will not result in the violation of surface water or groundwater quality objectives at or Below Prado Dam. Such a demonstration was beyond the scope of the SNMP and so the application to revise the TDS permit limit, and the associated technical analyses, will be pursued by Eastern as a management action under the SNMP.

Nitrate

In the case of nitrate, there is 3.2 mg/L of assimilative capacity in the Upper Temescal Valley GMZ. Thus, any discharges with nitrate concentrations in excess of the current ambient nitrate concentration require a full antidegradation analysis to document the amount of assimilative capacity that will be used by the waste discharge. Currently, Elsinore Valley and Eastern have nitrate discharge limitations of 13 and 10 mg/L, respectively. The Basin Plan includes a default assumption of a 25-percent nitrogen loss in the recharge of recycled water discharged to surface waters. Thus, for regulatory purposes the permitted discharge of 13 and 10 mg/L nitrogen are equivalent to recharge nitrate concentrations of 9.8 and 7.5 mg/L (e.g. *10 mg/L x 0.75 = 7.5*). Further, to be consistent with the methods used by the Regional Board in the wasteload allocation analysis (see WEI, 2015b for example), the maximum of the ten-year average streambed recharge over a long-term hydrologic period is used to define the worst case streambed recharge. In planning Scenario 1b, the annual volume-weighted streambed recharge ranges from 1.1 to 7.7 mg/L and averages 4.5 mg/L. The ten-year rolling average ranges from 3.6 to 5.6 mg/L and averages 4.5 mg/L. While the maximum of the 10-year rolling average nitrate concentration is less than the antidegradation objective of 7.9 mg/L, it is greater than current ambient concentration of 4.7 mg/L, thus requiring an allocation of assimilative capacity for both agencies because the nitrate concentration in the Upper Temescal Valley GMZ is projected to increase in Scenario 1b.

Table D-5
PROJECTED AMBIENT NITRATE CONCENTRATIONS
IN THE UPPER TEMESCAL VALLEY GMZ: SCENARIO 1B

Scenario	Projected Ambient Nitrate Concentrations (mg/L)			Projected 10-Year Running Average Streambed Recharge Nitrate Concentrations (mg/L)		
	Minimum	Maximum	Average	Minimum	Maximum	Average
Scenario 1b	4.3	5.5	4.8	3.6	5.6	4.5

Scenario 1b shows that ambient nitrate concentrations will range from 4.3 to 5.5 mg/L and will average 4.8 mg/L over wet and dry conditions. Using the average value, and assuming the degradation is driven solely by the combined recycled water discharges (which are the highest nitrate source), a degradation of about 0.1 mg/L *(4.8 -4.7 = 0.1)* will occur, the equivalent of three percent of the available assimilative capacity.

An allocation of assimilative capacity requires a demonstration that beneficial uses are protected and that the allocation is to the maximum benefit of the people of the State of California. The projected range of nitrate concentrations in the GMZ is less than the Maximum Contaminant Level of 10 mg/L for nitrate, and thus the degradation will not impair beneficial uses for potable and non-potable wells. The maximum benefit demonstration for each discharge follows.

- *Elsinore Valley – Regional WRF discharge to the Temescal Wash*. This discharge is being done (and is required) to support the riparian vegetation located downstream of its discharge point. The protection of this environmental resource is of maximum benefit.

- *Elsinore Valley – Horsethief WRF*. The absolute minimum amount of recycled water is discharged to the on-site percolation ponds when recycled water production exceeds recycled water demands. The allocation of assimilative capacity supports the reuse of recycled water in the Elsinore Valley's Horsethief service area, which reduces the amount of imported water that has to be imported from Northern California through the SWP and thus reduces demands on the environmentally sensitive Sacramento-San Joaquin Delta and helps meet the State Board's recycled water reuse goals, both of which provide maximum benefit to the State.

- *Eastern Discharge to the Temescal Wash*. The absolute minimum amount of recycled water is discharged to the Temescal Wash when recycled water production exceeds recycled water demands and wet period conditions require that storage ponds in the San Jacinto Valley be drained. The allocation of assimilative capacity supports the reuse of recycled water in the Eastern's service area, which reduces the amount of imported water from Northern California through the SWP and thus reduces demands on the environmentally sensitive Sacramento-San Joaquin Delta and helps meet the State Board's recycled water reuse goals, both of which provide maximum benefit to the State.

Elsinore Valley and Eastern will implement this SNMP as a condition of being granted an allocation of assimilative capacity for nitrate

<u>Salt and Nutrient Management Plan Actions</u>

Based on the characterization of the Upper Temescal Valley GMZ, the recommended Basin Plan objectives, the current and projected TDS and nitrate concentrations, and the anti-degradation analyses performed herein, the following are the recommended management actions to be implemented by Elsinore Valley and/or Eastern pursuant to this SNMP:

- Implementation of a new SNMP Monitoring and Reporting Program, including the addition of new groundwater and surface water monitoring locations, in the Upper Temescal Valley GMZ to validate the methods and findings described in this report to support future efforts to recompute current and project future ambient water quality.
- Triennial reporting of the water supply and discharge water quality management activities

of each agency, including water supply and discharge water quality trends over the reporting period.
- Recomputation of current ambient water quality and ambient water quality projections for the Upper Temescal Valley per the methodologies developed herein by June 30, 2020 and thereafter based on a method and schedule approved by the Regional Board.
- Participation in Task Force efforts to periodically update the Wasteload Allocation for the Santa Ana River Watershed.
- Participation in Task Force efforts to assist the Regional Board in the development of updated TDS management strategies for recycled water discharges during times of drought.
- Submittal of an application for a new TDS waste discharge limitation for Eastern's discharge of recycled water to the Temescal Wash, and develop a plan and schedule for an alternative approach if a new limitation is not approved by the Regional Board.
- Annual reporting of progress and activities related to this SNMP to the Regional Board.
- Periodic update of the SNMP Actions.

Each of these efforts is described in greater detail below.

SNMP Monitoring and Reporting Program

The goal of the SNMP monitoring program is to provide the data required to calculate ambient TDS and nitrate concentrations with the same methodology used herein to estimate historical and current ambient water quality, to make projections of future ambient water quality, and to provide the data required to evaluate wasteload allocations. The types of data required for these analyses include groundwater level, production, and water quality; surface water discharge and quality; recycled water discharge and quality; water supply plans; land use; and watershed drainage maps.

SNMP Field Monitoring Program

Figure 3 is a map of the monitoring sites included in the proposed SNMP field monitoring program. The figure includes:

- The location of 12 existing wells that will be monitored for water levels and water quality.
- The conceptual location of up to four new wells to be constructed and added to the monitoring program. One site is a new production well being constructed by Elsinore Valley; the remaining three sites are conceptual locations for new monitoring wells, if required.
- The approximate location of five in-stream surface water monitoring sites.
- The location of two proposed instantaneous discharge measurement stations: one at the outlet of Lee Lake dam and one at the outlet of the All-American Aggregate Pit. Note that if the All-American Aggregate Pit is not suitable for a stream discharge measurement stations, other sites along Temescal Wash, where existing structures (e.g. bridges) cross the Wash will be evaluated as alternative locations for monitoring sites.

Groundwater level and water quality. Where practicable[4], integrated data loggers will be

[4]It may not be possible to install transducers in all existing, active production wells, depending on how the wells were constructed and equipped.

installed to continuously measure groundwater levels and electrical conductivity (EC). As illustrated by the available historical water quality data at wells, TDS concentrations are highly variable and fluctuate in response to wet and dry periods, and the installation of continuously recording EC probes will help to fully characterize how water quality fluctuates seasonally and over wet and dry periods. To capture the range of constituent concentrations at wells, water quality grab samples should initially be performed on a quarterly frequency. The minimum water quality constituents to be measured include the following: Alkalinity (including: Bicarbonate, Carbonate, Hydroxide); Ammonia-nitrogen; Calcium; Chloride; Magnesium; Nitrate (as nitrogen); Nitrite (as nitrogen), pH, Potassium, Sodium, Specific Conductance @ 25ºC, Sulfate; and, TDS. If after the initial monitoring period the laboratory measurements can be correlated to the continuous EC readings, the grab sampling rate would be reduced. Where it is not practical to install transducers, groundwater level measurements should be collected on a monthly basis and water quality on a quarterly basis. Again, after the initial monitoring period the groundwater level will be evaluated to adjust the monitoring accordingly. The proposed (existing) wells (12 wells) to be monitored are shown in Figure 3 and are listed in Table D-6, below. The proposed monitoring types and frequencies are as follows:

- Monthly
    - Manually monitor water level
- Quarterly:
    - Download the integrated data logger for continuous water level and EC
    - Monitor water quality

Table D-6
PROPOSED GROUNDWATER MONITORING SITES FOR THE UPPER TEMESCAL VALLEY SNMP MONITORING PROGRAM

Well Information				
Owner's Well Name	**Owner's Well Use**	**Owner**	**Latitude**	**Longitude**
Flager 2A	Potable Municipal	Elsinore Valley	33.828	-117.511
Flager 3A	Non- Potable Municipal	Elsinore Valley	33.827	-117.511
New Sump	Non- Potable Municipal	Elsinore Valley	33.781	-117.475
Gregory 1	Non- Potable Municipal	Elsinore Valley	33.753	-117.446
Gregory 2	Non- Potable Municipal	Elsinore Valley	33.752	-117.447
SCE Well	Monitoring	Southern California Edison	33.736	-117.416
Cemetery Well	Non- Potable Municipal	Elsinore Valley	33.690	-117.347
WPC W1	Non- Potable Municipal	Corona	33.823	-117.508
WPC W2	Non- Potable Municipal	Corona	33.823	-117.507
MW-1	Monitoring	Temescal Valley WD	33.802	-117.498
MW-2	Monitoring	Temescal Valley	33.786	-117.490

		WD		
MW-3	Monitoring	Temescal Valley WD	33.799	-117.505

To fill spatial data gaps in the Warm Springs GMZ and the southeastern portion of the Lee Lake GMZ, additional wells (either new construction or existing private wells) will need to be monitored per the same protocols as the existing wells once they are identified or constructed. Elsinore Valley is constructing a new production well near the site of the former Barney Lee wells that were destroyed as part of a new residential development. The conceptual location of this production well is shown in Figure 3. Conceptual locations for additional wells are shown in Figure 3 to illustrate the approximate minimum spatial distribution required to fill existing data gaps.

Elsinore Valley has conducted extensive outreach efforts throughout the Valley to identify existing wells that can be included in the monitoring program. One well, located on property owned by Southern California Edison has already been identified and included in the program (provided in Appendix 1, the SNMP document). There are seven additional private wells located in the Warm Springs Valley and Lee Lake areas that Elsinore Valley has requested access for sampling. Thus far no agreements have been reached, but outreach is ongoing.

Additionally, Elsinore Valley is in the process of performing a detailed hydrogeologic investigation of the Warm Springs area in support of its efforts to increase groundwater production. The study may result in the construction of new wells that can be used in the SNMP monitoring program. And, if not, the results of the study can be used to site new groundwater monitoring wells if access to the seven private wells is denied.

Surface-water discharge and water quality. As previously noted in this report, there are no existing surface water monitoring programs in the Upper Temescal Valley. Given that very little is understood about surface-water discharge, quality, and its interactions with groundwater, an initial one-year synoptic survey of the watershed will be performed. In the initial year, the program will include a greater frequency of monitoring than will be required in the long-term to characterize discharge and water quality.

The five initially proposed in-stream surface water monitoring stations are shown in Figure 3 and listed below in Table D-7 below. The preliminary locations were based on a review of geology maps, drainage maps, roads, aerial photography, and land use maps. A field reconnaissance investigation will be performed to determine the precise locations to collect samples within the creek based on access and safety considerations.

Table D-7
PROPOSED SURFACE-WATER MONITORING SITES FOR THE UPPER TEMESCAL VALLEY SNMP FIELD PROGRAM

Monitoring Station Information				Manual Biweekly Discharge Measurement	Continuous Discharge Measurement	Biweekly Water Quality
Station Name	Owner, If Applicable	Latitude	Longitude			
Station 1	N/A	33.707	-117.362	X		X
Station 2	N/A	33.729	-117.396	X		X
Lee Lake Outlet	Elsinore Valley	33.750	-117.445		X	X
Station	N/A	33.760	-117.459	X		X
Station	N/A	33.782	-117.478	X		X
Station	N/A	33.824	-117.506	X		X
Former All American Aggregate Pit Outlet[1]	Private Owner	33.868	-117.530		X	X

[1]Property access has not yet been granted; Elsinore Valley is working with the owner and RCFC & WCD to obtain access and install equipment, if feasible. Note that if the All-American Aggregate Pit is not suitable for a stream discharge measurement stations, other sites along Temescal Wash, where existing structures (e.g. bridges) cross the Wash will be evaluated as alternative locations for monitoring sites.

During the first year of monitoring, the sites will be visited on an approximately biweekly basis to capture the full range of wet and dry conditions[5]. During each visit, a grab water quality sample will be collected, and a stream discharge measurement made, if possible. The minimum water quality parameters to be measured are listed above under "Groundwater Level and Water Quality," and include TDS, nitrate, and the major anions and cations. In some cases, low-flow or no-flow conditions will preclude the ability to collect samples or discharge measurements. Photographs will be collected during every visit, and flow conditions will be documented by field personnel (even if samples and measurements cannot be collected).

Instantaneous discharge measurements will be required to calibrate future surface water models used in the ambient TDS and nitrate determinations and for the wasteload allocation. A surface water monitoring station has already been constructed at the outlet of Lee Lake dam. The Elsinore Valley is currently coordinating with the landowners and the Riverside County Flood Control and Water Conservation District (RCFC&WCD) to secure permission to evaluate the potential to install a second monitoring station at the outlet of the former All-American Aggregate Pit (now referred to as the Temescal Gravel Pit). If feasible, the monitoring stations will consist of a stage recorder in the reservoirs and flow meters installed in the outlet works (or devices that record the gate opening) and will be connected to a digital recorder. Note that if the All-American Aggregate Pit is not suitable for a stream discharge measurement stations, other sites along Temescal Wash, where existing structures (e.g. bridges) cross the Wash will be evaluated as alternative locations for monitoring sites.

[5]The schedule is stated as "approximate" as it may not be possible to access the sites during extreme wet conditions. If it's not safe to collect samples and measure discharge, the monitoring event will not occur.

The discharge from Lake Elsinore, if it occurs, can be calculated from the continuous stage recorder that is maintained at the Lake. The data will be analyzed to produce discharge estimates at 15-minute intervals and aggregated to daily discharge measurements for surface water model calibration. Additionally, if outflow is occurring, water-quality grab samples will be collected at these two stations.

After one year of high-frequency monitoring, the discharge and water quality results will be evaluated to establish a revised program of stations and monitoring frequencies to characterize surface water quality and surface and groundwater interactions in the Upper Temescal Valley.

Compilation of Other Data Sets

The following data sets will be collected, compiled and maintained as part of the SNMP database:

Water supply plans. These data include the sources of water supplied, the monthly volume supplied from each source, the water quality of each source[6], the approximate amounts of each source used indoors and outdoors, the locations of use (e.g. pressure zones), and projected future water supply plans. Water use data will be collected from Elsinore Valley, the TVWD, and the City of Corona on an annual basis. Future water supply projections will be collected, as needed, for preparing projections of ambient water quality.

Private Groundwater Production. To the extent practicable, the location of private groundwater wells will be documented, and the associated volumes of groundwater produced will be estimated if reported values are not available. The status of private groundwater use will be updated as the information becomes available.

Land use. This data includes the current and future land use surveys that were used in the development of the 2014 ambient TDS and nitrate concentrations, any subsequent periodic Southern California Association of Governments (SCAG) land use surveys, and general plan land use maps from all agencies in the Upper Temescal Valley. This information can be collected and compiled during the update of ambient water quality.

Drainage system. This data includes information on any drainage system changes that occurred during the time period for which ambient TDS and nitrate concentrations are being estimated and any future planned changes. This information can be collected and compiled during the update of ambient water quality.

Data Management

All data collected and compiled for the Upper Temescal Valley SNMP monitoring program will be processed into electronic formats, checked for quality assurance and quality control (QA/QC), and stored in a centralized project database.

Reporting

[6]The potable municipal water supply sources and recycled water sources are being tested for water quality in compliance with the requirements of the California Department of Drinking Water and the Regional Board. Annual measurements are acceptable.

An annual report will be prepared and submitted to the Regional Board by of each year and will include, at a minimum: a summary of the monitoring and data collection efforts performed, tables and charts of the monitoring results, and any recommended changes to the monitoring program. This report will be incorporated as part of the larger Annual SNMP Progress Report. Additionally, prior to the completion of the first annual report, quarterly progress reports will be submitted to the Regional Board.

Triennial Report of Water Supply and Discharge Water Quality Management

Every three years, Elsinore Valley and Eastern will prepare a report of their respective efforts to manage the TDS concentration of their water supply sources and recycled water discharges. Each agency will prepare its own separate report of activities. The report will include: a characterization of the service area, source water supplies, and recycled water discharge and reuse; descriptions of the current and potential future activities to manage/improve the TDS concentration of supply sources and/or wastewater; and a characterization of the TDS concentrations of source waters and recycled waters to demonstrate how water quality is trending over time.

Eastern is already developing this report for compliance with its Maximum Benefit Commitments in the San Jacinto Upper Pressure GMZ. Eastern's latest report was submitted August 2018 for the reporting period of 2015-2018, and subsequent reports will be due every three years thereafter. Elsinore Valley submitted its first report to the Regional Board in December 2018. Subequent reports will be completed every three years on the same schedule as Eastern (e.g. August 2021, August 2024, etc.)

Recomputation of Current Ambient Water Quality and Projections of Future Ambient Water Quality

Current ambient TDS and nitrate concentrations will be recomputed by June 30, 2020. The same (or functionally equivalent) surface water and groundwater modeling tools will be updated and recalibrated to include the new datasets collected through the SNMP monitoring program. This effort will also include preparing updated projections of future ambient water quality based on the recycled water reuse and development plans of the agencies in the Upper Temescal Valley to determine if new SNMP management actions are needed. The recomputation effort will be performed so that the results are available at the same time as of the next ambient water quality update prepared by the Task Force. Upon completion of the technical work in 2020, Elsinore Valley and Eastern will work with the Regional Board to establish a plan and schedule for ongoing updates to the ambient water quality calculations.

Participation in the Update of the Wasteload Allocation for the Santa Ana River Watershed

The Regional Board periodically requires the Basin Monitoring Task Force to update the wasteload allocation for the Santa Ana River Watershed. This is a comprehensive surface water modeling analysis to evaluate the current and future impacts of recycled water discharges on the quality of the Santa Ana River and its tributaries and the underlying GMZs. Elsinore Valley and

Eastern will participate financially, or with in-kind contributions of the robust data and models developed for this SNMP[7], in the watershed-wide effort when it is required by the Regional Board.

Participation in the Update of the Regional Board's TDS Management Plan for Recycled Water Discharges during Times of Drought

The Regional Board is evaluating options to update its TDS management plan for regulating recycled water discharges during times of drought. Development of such a policy will require extensive technical studies to be performed by the Task Force to demonstrate the impacts of the various management strategies considered. Elsinore Valley and Eastern will participate financially, or with in-kind contributions, in the Task Force study and will incorporate the adopted salt offset strategies, as appropriate, into a future update of this SNMP. The technical work in support of the policy effort is scheduled to be completed by December 2017. The Task Force will begin its effort to develop compliance strategies upon completion of the technical work.

In the event that the application to increase the TDS permit limit is not approved by the Regional Board, Eastern will submit a plan and schedule to develop a salt offset option for discharges to the Temescal Wash within 6 months of the rejection of the application.

Annual Reporting of SNMP Progress and Activities

Elsinore Valley and Eastern will prepare a joint annual report on their progress and activities related to the SNMP, including progress towards meeting compliance schedules for the management actions described herein.

Periodic Update of the Salt and Nutrient Management Plan Actions

The SNMP Actions will be updated upon completion of the next recomputation of current ambient water quality and projections of future ambient water quality. The updated actions will be reported together with the ambient water quality analysis, and will include an approved plan and schedule for ongoing updates to the ambient water quality calculations and the SNMP management actions.

E. SURROUNDING LAND USES AND SETTING

Figure 3 is a location map of the Upper Temescal Valley, which is located in the western portion of Riverside County, California. The Upper Temescal Valley GMZ, delineated by the red outline on Figure 3, is an approximately 20-mile long, narrow alluvial groundwater basin that is drained by the Temescal Wash, which is an unlined stream channel through almost the entire GMZ. The Upper Temescal Valley Watershed, delineated by the yellow outline, is the watershed tributary to the Temescal Wash, which originates just downstream of Lake Elsinore and terminates at the former All-American Aggregate Pit in the Temescal GMZ within the City of Corona. There are three water supply agencies that overly and provide water supply services to residences and businesses within the Upper Temescal Valley GMZ: The City of Corona, the Temescal Valley Water District (TVWD; formerly known as the Lee Lake Water District), and Elsinore Valley. All three agencies also own and operate water reclamation facilities to treat wastewater generated

[7]The WLAM application developed in this SNMP is much more detailed than in the WLAM used by the Task Force and can be inserted into the current model, thereby enhancing it.

in their service areas to tertiary standards before the water is either discharged to Temescal Creek or percolation ponds or reused for irrigation. Figure 1 also shows the service area boundaries, treatment plant locations, and discharge points in the Upper Temescal Valley. Eastern also discharges tertiary treated wastewater generated in its service area to the Temescal Wash just downstream of the Lake Elsinore outlet channel, as shown in Figure 1.

Figures 4a and 4b summarize the land use of the Upper Temescal Valley for the years 1933 1957, 1963, 1975, 1990, 2005, 2014, and at build-out in the future (estimated to occur in 2100). Table E-1 summarizes the total acres of each land use type in the Upper Temescal Valley for each of the time periods shown in Figures 4a and 4b. Table E-1 also shows the percent imperviousness of each land use type, which ranges from two percent to 95 percent. Figures 4a and 4b summarize the land uses into three main categories—native and undeveloped, agricultural, and urban—and shows how the imperviousness of the Upper Temescal Valley has increased over time as a result of land use changes.

The land was developed slowly through the 1930s, primarily for non-irrigated field crops. By the 1960s, agricultural was shifted primarily to irrigated citrus and some truck crops, and the acreage of irrigated citrus continued to grow through 1990. Urban development accelerated after 1975. Although a significant portion of the Watershed remained undeveloped in 2014, urban land uses dominated the developed parts of the watershed, and the remaining irrigated land uses were urban in character: homes, golf course, and parks. While the primary changes in the development of the watershed over time have been concentrated on the valley floor (the land overlying the GMZ), future build-out plans show that much of the previously undeveloped lands comprised of native vegetation will be developed for urban uses. Figure 4b shows that the total imperviousness of the Watershed increased from about two percent in 1933 to nine percent by 2014 and is projected to reach 24 percent at buildout. However, recall that currently the valley floor overlying the alluvial basin is covered predominantly by urban land uses and is about 60 percent impervious compared to about one to three percent impervious when the valley floor was dominated by agricultural and native land use types from 1933 through 1975.

Table E-1
LAND USE IN THE UPPER TEMESCAL VALLEY WATERSHED

Land Use Type	Percent Impervious	1933	1949	1957	1963	1975	1990	1993	2001	2005	2014	Build-Out
Non-Irrigated Field Crops, Pasture, Fruits, and Nuts	2	2,761	2,761	1,294	268	168	110	118	121	127	181	1
Irrigated and Non-Irrigated Citrus	2	1,537	1,325	1,452	2,388	2,423	4,443	3,964	1,949	1,029	377	576
Irrigated Field Crops, Pasture, Fruits, and Nuts	2	94	94	123	940	1,103	241	278	433	703	767	1,168
Irrigated Vineyards	2	0	0	10	0	0	0	0	0	0	0	0
Dairies and Feedlots	10	0	0	10	51	36	9	9	8	0	0	0
Medium to High Density Urban Residential	75	87	470	856	1,239	1,969	768	884	1,631	2,274	3,309	4,077
Low Density Urban Residential	30	11	11	13	220	243	2,738	2,877	2,982	3,360	3,460	19,589
Commercial	90	0	0	3	6	5	131	178	255	424	611	3,938
Industrial	90	3	3	2	165	165	462	488	517	634	806	2,648
Special Impervious	95	0	6	35	76	71	981	1,037	1,028	1,195	1,217	2,784
Native Vegetation	2	73,819	73,642	74,515	72,959	72,129	68,427	68,478	69,388	68,567	67,584	43,534
Totals	-	**78,312**	**78,312**	**78,312**	**78,312**	**78,312**	**78,312**	**78,312**	**78,312**	**78,312**	**78,312**	**78,312**

F. SPECULATIVE DISCUSSION OF FUTURE ACTIONS

At this time and in the foreseeable future, it is assumed that no actions are required to improve TDS or Nitrate concentration within the Upper Temescal Valley GMZ. Though the implementation of the SNMP is unlikely to result in the construction of facilities to reduce the TDS concentration in the source water or recycled water, should it be necessary to construct these facilities in the future, Elsinore Valley and Eastern would prepare a project-level CEQA document discussing the impacts under each category of the Initial Study Checklist, and would address associated mitigation measures of the individual projects. An evaluation of the impacts that could result from construction of any such facilities would be speculative, and is therefore not included in the analysis herein.

G. ENVIRONMENTAL CHECKLIST

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology / Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology & Water Quality	☐ Land Use / Planning	☐ Mineral Resources
☐ Noise	☐ Population / Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities / Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

EVALUATION OF ENVIRONMENTAL IMPACTS:

1. The board must complete an environmental checklist prior to adoption of plans or policies. The checklist becomes a part of the Substitute Environmental Document (SED).

2. For each environmental category in the checklist, the Board must determine whether the project will cause any adverse impact. If there are potential impacts that are not included in the sample checklist, those impacts should be added to the checklist.

3. If the board determines that a particular adverse impact may occur as a result of the project, then the checklist boxes must indicate whether the impact is “Potentially Significant”, “Less than Significant with Mitigation Incorporated”, or “Less than Significant”. “Potentially Significant Impact” applies if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries on the checklist, the SED must include an “EIR” level analysis. “Less than Significant with Mitigation Incorporated” applies where the incorporation of mitigation measures will reduce an effect from “Potentially Significant Impact” to a “Less than Significant Impact”. The board must either require the specific mitigation measures or be certain of their application by another agency. “Less than Significant” applies if the impact will not be significant, and mitigation is not required. If there will be no impact, check the box under “No impact.”

4. The board must provide a brief explanation for the checked boxes on the checklist. The explanations may be included in the written report described in the Water Boards' regulations for implementation of CEQA, 23 CCR §3777(a)(1), or in the checklist itself. The explanation of each issue should identify: (a) the significance criteria or threshold, if any, used to evaluate each question and (b) the specific mitigation measure(s) identified, if any, to reduce the impact to less than significance. The board may determine the significance of the impact by considering factual evidence or agency standards or thresholds. If the "No Impact" box is checked, the board should briefly describe the basis for that determination.

5. The board must include mandatory findings of significance if required under CEQA Guidelines §15065.

6. The board should provide references used to identify potential impacts, including a list of information sources and individuals contacted.

The environmental analysis must include an analysis of the reasonably foreseeable environmental impacts of the Basin Plan Amendment and reasonably foreseeable feasible mitigation measures relating to those impacts. This section, consisting of answers to the questions in the checklist, discusses the reasonably foreseeable environmental impacts and reasonably foreseeable feasible mitigation measures.

In answering the checklist questions, this section evaluates the impacts of amending the Basin Plan to establish antidegradation water quality objectives for the Upper Temescal Valley GMZ and incorporate the SNMP for the Upper Temescal Valley GMZ. It also evaluates, in a general manner, the impacts of the Eastern and Elsinore Valley's proposed environmental commitments associated with its proposed actions outlined as part of the SNMP.

Potential reasonably foreseeable impacts were evaluated with respect to aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, traffic and transportation, and utilities and service systems. Additionally, mandatory findings of significance regarding short-term, long-term, cumulative and substantial impacts were evaluated.

A significant effect on the environment is defined in regulations as a "substantial or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. A social or economic change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant." (14 CCR 15382)

A significant effect on the environment is defined in statute as "a substantial, or potentially substantial, adverse change in the environment" where "environment" is defined by Public Resources Code §21060.5 as "the physical conditions which exist within the area which will be affected by a proposed project, including air, water, minerals, flora, fauna, noise, objects of historic or aesthetic significance."

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – The proposed SNMP actions are generally clerical in nature—consisting of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, etc. However, the SNMP monitoring program proposes groundwater monitoring at various locations throughout the Upper Temescal Valley GMZ, though no new wells are proposed at this time. The SNMP monitoring program also includes five in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The monitoring devices are small and will be placed within existing wells and within surface water outlets or structures and will not cause a visible change in the environment. Therefore, given that the monitoring devices would not be visible, implementation of the proposed SNMP would have no potential to have a substantial adverse effect on a scenic vista. No impacts are anticipated and no mitigation is required.

b. *No Impact* – As stated under issue I(a) above, the proposed SNMP actions are generally clerical in nature. The groundwater, instantaneous discharge measurement, and surface water monitoring locations do not contain any scenic resources, including trees, rocks or outcroppings that would be impacted by placement of monitoring devices at these locations (shown on Figure 3). Interstate 15—which is considered to be an eligible state scenic highway that has not been officially designated by the California Department of Transportation[8]— traverses the Upper Temescal Valley GMZ. No historic buildings will be impacted by the SNMP, and as Interstate 15 and Highway 74 are not designated as official State of California scenic highways, no impacts will occur within a scenic highway corridor from implementation of the SNMP.

c. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various

[8]http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/

locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the placement of monitoring devices at existing monitoring sites to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices are not of a type that would be visible, nor are these devices that would conflict with the underlying zone classification of a given site. Therefore, no conflicts with applicable zoning or other regulations governing scenic quality of the SNMP area would occur. No mitigation is required.

d. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The surface water and groundwater monitoring devices are small and would not be visible to the public due to their size and location, and therefore would not create a new source of substantial light or glare. No impacts from implementation of the SNMP are anticipated and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
II. AGRICULTURE AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – According to the California Department of Conservation Important Farmland Finder (Figure II-1), there are several acres of Farmland within the Upper Temescal Valley GMZ. Should the Regional Board adopt Eastern and Elsinore Valley's proposed antidegradation objectives for TDS and nitrate, the availability of a reliable and economic water supply would not change, and therefore would not impact agricultural land within the GMZ area. The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American

Aggregate Pit or other existing structure that crosses the Temescal Wash). The surface water and groundwater monitoring devices would be located within existing wells, within surface water, or within the outlet of Lee Lake dam and the outlet of the All-American Aggregate Pit or other existing structures that crosses Temescal Wash, which may be located on agricultural land; however, the monitoring devices would not impact the use of the site in which any given station is located. Therefore, implementation of the SNMP would not convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland) to non-agricultural use. No impacts are anticipated and no mitigation is required.

b. *No Impact* – According to the Riverside County Williamson Act map (Figure II-2), there is one small section of Williamson Act Non-Prime Agricultural Land within the Upper Temescal Valley GMZ. Should the Regional Board adopt Eastern and Elsinore Valley's proposed antidegradation objectives for TDS and nitrate, the availability of a reliable and economic water supply would not change, and therefore would not impact agricultural land within the GMZ area. The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The locations of the monitoring devices would not be located on Williamson Act land that is located within the Upper Temescal Valley GMZ, therefore no impact to Williamson Act land would occur from implementation of the SNMP.

c. *No Impact* – No forest land or timberland exists within the Upper Temescal Valley GMZ. Therefore, implementation of the SNMP has no potential to conflict with existing zoning for, or cause rezoning of, forest land or timberland. No impacts are anticipated and no mitigation is required.

d. *No Impact* – No forest land or timberland exists within the Upper Temescal Valley GMZ. Therefore, implementation of the SNMP has no potential to result in the loss of forest land or conversion of forest land to non-forest use. No impacts are anticipated and no mitigation is required.

e. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). As previously stated, the proposed SNMP could expand the availability of a reliable and economic water supply could be beneficial to the agricultural land within the GMZ area. Therefore, implementation of the SNMP would have no potential to result in conversion of Farmland, to non-agricultural use, and given that no forestland exists within the Upper Temescal Valley GMZ, conversion of forest land to non-forest use. No impacts are anticipated and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

SUBSTANTIATION:

a. *Less Than Significant Impact* – A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in applicable air quality management plans. The 2016 Air Quality Management Plan (AQMP) was adopted by the South Coast Air Quality Management District (SCAQMD) Board in March, 2017, and has been submitted the California Air Resources Board for forwarding to the Environmental Protection Agency (EPA). The AQMP is based on general plans from local jurisdictions, which includes the City of Lake Elsinore and County of Riverside General Plans. The AQMP accounts for development that would occur as a result of implementation of these local general plans. The proposed Project is consistent with the AQMP in that it would accommodate development approved in these general plans. Therefore, impacts to the AQMP from implementation of the SNMP would be less than significant and no mitigation is required.

b. *No Impact* – The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O3, CO (except 8-hour Lake Tahoe), SO2, NO2, PM10, PM2.5, and visible reducing particles are not to be exceeded at any time in any consecutive three-year period; all other values are not to be equaled or exceeded. The air quality in a region is considered to be in attainment by federal standards if the measured ambient air pollutant levels for O3, PM10, PM2.5, and those based on annual averages or arithmetic mean are not exceeded more than once per year. The Table below outlines the attainment status of the air pollutants in the South Coast Air Basin (SCAB):

Table III-1
ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SOUTH COAST AIR BASIN

Criteria Pollutants	State Designations	Federal Designation
Ozone – 1 hour standard	Nonattainment	No Standard
Ozone – 8 hour standard	Nonattainment	Nonattainment (Extreme)
PM_{10}	Nonattainment	Attainment (Maintenance)
$PM_{2.5}$	Nonattainment	Nonattainment (Serious)
Carbon Monoxide	Attainment	Attainment (Maintenance)
Nitrogen Dioxide	Attainment	Attainment (Maintenance)
Sulfur Dioxide	Attainment	Attainment
Lead[1]	Attainment	Nonattainment

[1] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Implementation of the SNMP would result in miniscule contributions to emissions of various criteria pollutants in the area through truck trips to each of the 16 sites in which a monitoring device must be placed. Additionally, on-going implementation of the SNMP once the monitoring devices have been installed may require up to two truck trips to each device or surface water monitoring site per month. Emissions from the minimal truck trips required to implement the SNMP would be below thresholds for criteria pollutants and therefore, the SNMP would have a less than significant potential result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. No mitigation is required.

c. *Less Than Significant Impact* – As stated above, the SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). As previously stated, implementation of the SNMP would result in miniscule pollutant emissions in the area through truck trips to each of the monitoring devices and surface water sites. Additionally, on-going implementation of the SNMP once the monitoring devices have been installed may require up to two truck trips to each device or surface water monitoring site per month. Emissions from the minimal truck trips required to implement the SNMP would not result in substantial pollutant concentrations such that sensitive receptors in the area would be impacted. Therefore, impacts under this issue are considered less than significant and no mitigation is required.

d. *No Impact* – As stated above, the SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement

station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills or various heavy industrial uses. The installation of the monitoring devices required to implement the SNMP would not involve any substantial odor generation or generation of other emissions. Therefore, implementation of the SNMP would have no potential to result in other emissions, such as those that lead to odors, that would adversely affect a substantial number of people. No impacts under this issue are anticipated and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

SUBSTANTIATION: The data from the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) gathered for the Corona South, CA; Alberhill, CA; Lake Elsinore, CA; and Lake Mathews USGS Quadrangles is provided as Appendix 2 to this document.

a. *Less Than Significant Impact* – The CNDDB data gathered for the USGS Quadrangles that correspond to the proposed project indicate that there are several threatened and endangered species that have been identified on a Federal and State level within the quadrangles in which the Upper Temescal Valley GMZ is located. The CNDDB data is provided as Appendix 2 to this document. The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The monitoring devices will be installed within areas that do not contain habitat that would support any special status species identified as being located within the quadrangles in which the Upper Temescal Valley GMZ overlaps. Once installed there is no potential for the devices or the

SNMP to impact any special status species; therefore, impacts under this issue are considered less than significant. No mitigation is required.

b. *Less Than Significant Impact* – As previously stated, the SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The monitoring devices may be installed within areas that contain riparian habitat or other sensitive natural community. However, monitoring equipment would only be installed on existing structures and once installed there is no potential for the devices or the SNMP to impact any riparian habitat or other sensitive natural community; therefore, impacts under this issue are considered less than significant. No mitigation is required.

c. *Less Than Significant Impact* – As previously stated the SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The monitoring devices will be installed within streams that may or may not meet the criteria for wetlands; however, the devices are benign to the environment and have no potential to trigger any Section 404 permitting requirements. Therefore, implementation of the SNMP would have a less than significant potential to impact any wetlands through direct removal, filling, hydrological interruption, or other means.

d. *No Impact* – As previously stated the SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The installation of the small monitoring devices as part of the SNMP would have no potential to impact movement of wildlife within the Upper Temescal Valley GMZ due to their size, purpose, and locations. No mitigation is required.

e. *No Impact* – As previously stated the SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The installation of the monitoring devices would have no potential to conflict with any local policies or ordinances pertaining to biological resources. No trees will be removed as part of the SNMP and the small devices would not impact surrounding biological resources; therefore, no impacts under this issue are anticipated and no mitigation is required.

f. *No Impact* – As previously stated the SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices

within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash).

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – As previously stated, the SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The SNMP does not include any activities that would impact a historical resource as the monitoring devices are small and will be placed within existing wells and within surface water outlets or other existing structure, which is not anticipated to affect historical resources. Therefore, given that implementation of the SNMP does not require any earth moving equipment, no impacts to historical resources are anticipated and no mitigation is required.

b. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The SNMP does not include any activities that would require ground disturbance or excavation, and is therefore not anticipated to affect archaeological resources. No impacts are anticipated under this issue and no mitigation is required.

c. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The SNMP does not include any activities that would require ground disturbance or excavation, and is therefore not anticipated to have any potential to disturb human remains. No impacts are anticipated under this issue and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VI. ENERGY: Would the project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operations?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

SUBSTANTIATION

a. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The SNMP does not include any activities that would require a significant consumption of energy. Implementation of the SNMP would result in the use of gasoline or diesel for transportation purposes during both construction and operations. The SNMP would result in truck trips to each of the 16 sites in which a monitoring device must be placed. Additionally, on-going implementation of the SNMP once the monitoring devices have been installed may require up to two truck trips to each device or surface water monitoring site per month. The amount of fuel required to accomplish the above actions would be minimal, and would not be considered wasteful, inefficient, or unnecessary, given that transportation to these monitoring sites is a vital part of the SNMP. Therefore, impacts under this issue are considered less than significant.

b. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The SNMP does not include any activities that would require a significant consumption of energy. Implementation of the SNMP would result in the use of gasoline or diesel for transportation purposes during both construction and operations. No applicable plans or policies related to renewable energy or energy efficiency would apply to the proposed SNMP; therefore, no impacts under this issue are anticipated.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VII. GEOLOGY AND SOILS: Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
(ii) Strong seismic ground shaking?	☐	☐	☒	☐
(iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
(iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite land-slide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

SUBSTANTIATION

a.(i) *Less Than Significant Impact* – The California Department of Conservation Geologic Survey maps Alquist-Priolo Earthquake Fault Zones, which are regulatory zones that encompass surface traces of active faults that have a potential for surface fault rupture. There are several delineated Alquist-Priolo Special Study Zones within the area defined as the Upper Temescal Valley GMZ. However, the Alquist-Priolo Earthquake Fault Zoning Act generally was adopted to prevent the construction of structures used for human occupancy on the surface trace of active faults. The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and

installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The proposed SNMP does not include the development of any new structures, though the truck trips required to install the monitoring devices, as well as installation of the monitoring devices may occur in areas in which rupture of a known earthquake fault could occur, though such events are random and unlikely. Given that there are no structures proposed as part of the SNMP, implementation of the SNMP would have a less than significant potential to expose persons to risk of loss, injury, or death involving rupture of an earthquake fault. No mitigation is required.

a.(ii) *Less Than Significant Impact* – The Upper Temescal Valley GMZ, as with most of California, is located within a seismically active area, and will most likely be subject to groundshaking during the life of the proposed SNMP. The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The proposed SNMP does not include the development of any new structures. The truck trips required to install the monitoring devices, as well as installation of the monitoring devices may occur in areas in which persons could be exposed to seismic related ground shaking. However, given that there are no structures proposed as part of the SNMP, implementation of the SNMP would have a less than significant potential to expose persons to risk of loss, injury, or death involving seismic related ground shaking. No mitigation is required.

a.(iii) *Less Than Significant Impact* – Soil liquefaction occurs in water-saturated unconsolidated soils affected by seismic secondary waves, which cause ground vibrations during earthquakes. The potential for liquefaction in an area depends on a number of factors including the following: the intensity of the earthquake; the soil type and the density of such soils; and the depth of the groundwater. The Upper Temescal Valley GMZ has a shallow groundwater depth, and therefore, in certain areas soil conditions and groundwater depths are such that liquefaction may occur. The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The proposed SNMP does not include the development of any new structures that would expose persons to seismic related ground failure. The proposed SNMP does not include the development of any new structures; therefore, implementation of the SNMP would have a less than significant potential to expose persons to risk of loss, injury, or death involving seismic related ground failure. No mitigation is required.

a.(iv) *No Impact* – Landslides can be caused by steep, bare, slopes; clay-rich rock; deposits of stream or river sediment; and, heavy rains. The potential for landslide to occur within the Upper Temescal Valley GMZ is minimal, but varies throughout the Temescal Valley area. The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The proposed SNMP does not include the development of any new structures that would expose persons to landslide. The

proposed SNMP does not include the development of any new structures; therefore, implementation of the SNMP would have a less than significant potential to expose persons to risk of loss, injury, or death involving landslides. No mitigation is required.

b. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The proposed SNMP does not include any groundbreaking activities that would result in substantial soil erosion or loss of topsoil; therefore, impacts under this issue are considered less than significant. No mitigation is required.

c. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit and other existing structure that crosses the Temescal Wash). The proposed SNMP does not include the development of any new structures, and therefore is not anticipated to expose persons to on- or off-site lateral spreading, liquefaction, subsidence, landslide, or collapse. Impacts under this issue are considered less than significant and no mitigation is required.

d. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The proposed SNMP does not include the development of any new structures, and therefore no structures would be located on expansive soil such that substantial risks to life or property would occur. No impacts under this issue are anticipated and no mitigation is required.

e. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). No alternative wastewater disposal systems are proposed as part of the SNMP, and therefore, no impacts under this issue are anticipated and no mitigation is required.

f. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, and installation of two instantaneous discharge measurement stations: one at the outlet of Lee Lake dam and one or more at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash. The SNMP does not include any activities that

would require ground disturbance or excavation, and is therefore not anticipated to affect paleontological resources or unique geological features. No impacts are anticipated under this issue and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VIII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

SUBSTANTIATION

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. Many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual project like the Project evaluated in this GHGA cannot generate enough greenhouse gas emissions to effect a discernible change in global climate. However, the Project may participate in the potential for GCC by its incremental contribution of greenhouse gasses combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC.

In September 2010, the SCAQMD CEQA Significance Thresholds GHG Working Group released revisions which recommended a threshold of 3,000 Metric Tons per Year of CO_2e for all land use projects.

a&b. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations at (the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The SNMP does not involve any groundbreaking activities, though emissions related to installing the groundwater and surface water monitoring devices would occur, but they would be minimal and would not exceed CEQA thresholds for GHG. Therefore, the project would have a less than significant potential to generate significant greenhouse gas emissions or conflict with a plan, policy, or regulation intended to reduce greenhouse gas emissions. No mitigation is required.

	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply	Potentially Significant Impact
IX. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

SUBSTANTIATION

a. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices are not considered to be hazardous and therefore the SNMP would have a less than significant potential to create a hazard to the public through use of hazardous materials.

b. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices

within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Installation of the monitoring devices can be completed through the use of a conventional automobile; no construction equipment will be required. Additionally, as stated above, the SNMP does not include the use of any hazardous materials, therefore there is a less than significant potential for the project to create a significant hazard to the public or environment through accident conditions involving the release of hazardous materials. No mitigation is required.

c. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices are not considered to be hazardous. Therefore, though the Upper Temescal Valley GMZ—which is inclusive of areas surrounding the proposed monitoring locations—is an area containing several schools, implementation of the SNMP would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one quarter mile of a school. No impacts are anticipated under this issue and no mitigation is required.

d. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit and other existing structure that crosses the Temescal Wash). According to the California State Water Board's GeoTracker website (consistent with Government Code Section 65962.5), which provides information regarding Leaking Underground Storage Tanks (LUST), there are several closed, remediated LUST cases of groundwater contamination within the Upper Temescal Valley GMZ[9]. The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices would monitor the groundwater quality, measuring for concentrations of TDS and Nitrate in the GMZ, and as such implementation of the SNMP would have a less than significant potential to create a significant hazard to the public or environment as a result of nearby hazardous material sites, particularly since all of the sites in the Upper Temescal Canyon GMZ have been remediated. No mitigation is required.

e. *No Impact* – The Upper Temescal Valley GMZ is not located within an airport land use plan or within two miles of a public airport or within the vicinity of a private airstrip, therefore no impacts are anticipated under this issue and no mitigation is required.

f. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new

[9] http://geotracker.waterboards.ca.gov/

instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Installation of the monitoring devices would not impair or interfere with an emergency response or evacuation plan in the area. The areas in which the monitoring devices will be installed are not within any roadways and are small in size such that once they are in place they would not affect the surrounding environment. Therefore, the implementation of the SNMP would have no impacts under this issue. No mitigation is required.

g. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The Temescal Valley area is an area that has been historically subject to wildfires. No structures are proposed as part of the SNMP, though the installation of the monitoring devices throughout the Upper Temescal Valley GMZ may have a minor potential to expose the persons installing the devices to wildfire; however, typically wildfire events would occur in the hills adjacent to the Valley Floor, which would provide persons working in the area ample time to avoid encountering a wildfire event. The monitoring devices are accessed remotely once installed, therefore there would be minimal exposure to wildfire as a result of implementation of the SNMP. Impacts under this issue are considered less than significant and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
X. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
(i) result in substantial erosion or siltation onsite or offsite?	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?	☐	☐	☐	☒
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?; or,	☐	☐	☐	☒
(iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

SUBSTANTIATION: Much of the data presented below can be found in the Project Description above; it is presented here secondarily to support the impact analysis for this section of the document.

a. *Less Than Significant Impact* – The Regional Board regulates discharges from the Elsinore Valley Regional Wastewater Reclamation Facility under Order No. R8-2013-0017 (NPDES Permit No. CA8000027). The TDS and total inorganic nitrogen (TIN) limits are as follows:

- 700 milligrams per liter (mg/L) TDS, as measured by the 12-month running average concentration to the Temescal Wash; and,
- 13 mg/L TIN, as measured by the 12-month running average concentration to the Temescal Wash.

The Regional Board regulates Eastern's discharges, which are made up of flows from four regional water reclamation facilities (RWRFs): San Jacinto Valley RWRF, Moreno Valley RWRF, Perris Valley RWRF, and Temecula Valley RWRF. The TDS and TIN limits are specified in Regional Board Order No. R8-2009-0014 as follows:

- 650 mg/L TDS, as measured by the 12-month running average concentration to the Temescal Wash; and
- 10 mg/L nitrate, as measured by the 12-month running average concentration to the Temescal Wash.

Currently there are no groundwater quality objectives defined for the Warm Springs, Lee Lake, and Bedford GMZs in the Bain Plan. The Upper Temescal Valley GMZ is a proposed GMZ boundary that combines the existing Warm Springs, Lee Lake, and Bedford GMZs into one management unit, as shown on Figure 1. Prior to defining the SNMP management activities, technical work was required to establish defensible, scientifically based numerical groundwater quality objectives for the Upper Temescal Valley GMZ, based on historical ambient TDS and nitrate concentrations. The outcome of the technical work is as follows: The Upper Temescal Valley SNMP recommends that the Regional Board adopt TDS and nitrate antidegradation objectives for the Upper Temescal Valley in a manner consistent with the 2004 Basin Plan amendment, described in the Project Description above. The proposed antidegradation objectives and assimilative capacity for TDS and Nitrate are outlined below in Table IX-1.

Table IX-1
PROPOSED ANTIDEGRADATION OBJECTIVES FOR TDS AND NITRATE AND ASSIMILATIVE CAPACITY FOR TDS AND NITRATE

Constituent	Calculated Historical Ambient Concentration	Current Ambient	Antidegradation Objective	Assimilative Capacity
TDS (mg/L)	822	750	820	70
Nitrate (mg/L)	7.9	4.7	7.9	3.2

Historically and during the recent drought (2012-2016), both Elsinore Valley and Eastern have seen the TDS concentrations of their recycled water effluent increase in response to the increase in the TDS concentration of their source water supplies and water conservation, resulting in periodic violations of their waste discharge limitations. One objective of the Upper Temescal Valley SNMP is to define a management plan that ensures these periodic violations do not result in groundwater degradation and do not impact downstream beneficial uses of groundwater or surface water. In lieu of defining a specific salt mitigation strategy in the SNMP to address potential future permit violations, Elsinore Valley and Eastern propose to participate in the current ongoing Task Force efforts to address short-term violations of TDS discharge limitations that result from drought and state-mandated water conservation efforts and will adopt and implement TDS management strategies that are consistent with any new Regional Board management plan. Participation in the Task Force study is a required management action under the SNMP.

For nitrate, there is 3.2 mg/L of assimilative capacity in the Upper Temescal Valley GMZ based on the proposed antidegradation objectives. Thus, any discharges with nitrate concentrations in excess of the current ambient nitrate concentration require a full antidegradation analysis to document the amount of assimilative capacity that will be used by the waste discharge. The assimilative capacity analysis demonstrated in the SNMP report indicated that ambient nitrate concentrations will average 4.8 mg/L over wet and dry conditions, which is only 0.1 mg/L more than the current ambient and uses about three percent of the available assimilative capacity. The projected range of nitrate concentrations in the GMZ is less than the Maximum Contaminant Level of 10 mg/L for nitrate, and thus the degradation will not impair beneficial uses for potable and non-potable wells.

The SNMP management actions provide for the recomputation of current ambient water quality and preparing ambient water quality projections for the Upper Temescal Valley GMZ per the methodologies developed in the SNMP and outlined above by June 30, 2020 and thereafter based on a method and schedule approved by the Regional Board. As such, effectively adoption of the

SNMP would provide strategies for Elsinore Valley and Eastern to continually assess the impacts of their discharge permits on the Upper Temescal Valley GMZ.

Establishing Basin Plan Objectives for the Upper Temescal Valley SNMP, together with the incorporation of the proposed SNMP management actions into the Basin Plan, will enable the Regional Board to determine if the water quality objectives are violated in the future, and if so there are management actions in place to handle salt mitigation requirements. Additionally, the SNMP would ensure that the Elsinore Valley and Eastern participate in the Task Force efforts and will adopt and implement TDS management strategies that are consistent with any new Regional Board management plan.

The SNMP actions also includes the submittal of an application for a new TDS waste discharge limitation for Eastern's discharge of recycled water to the Temescal Wash, and a plan and schedule for an alternative approach if a new limitation is not approved by the Regional Board. Eastern would be required to demonstrate compliance with the SNMP and the wasteload allocation for the Santa Ana River. Adoption of the SNMP provides a framework for the Regional Board to evaluate the permit change request and ensure it is consistent with the SNMP and the Basin Plan.

Implementation of the SNMP would have a less than significant potential to violate any water quality standards or waste discharge requirements.

The SNMP defines historical ambient concentrations of TDS and nitrate within the Upper Temescal Valley GMZ in order to establish Antidegradation Objectives and Assimilative Capacity that would allow Elsinore Valley and Eastern some flexibility in their recycled water discharge and reuse activities. The SNMP consists of monitoring and reporting of groundwater and surface water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash).

Establishing Basin Plan Objectives for the Upper Temescal Valley SNMP, together with the incorporation of the proposed SNMP management actions into the Basin Plan, will enable the Regional Board to determine water quality degradation is occurring and if so, what the drivers of degradation are. The SNNP establishes the management actions to define salt mitigation requirements for degradation caused by the discharge and/or reuse of recycled water in the Upper Temescal Valley. Should it be necessary to construct mitigation facilities in the future, Elsinore Valley and Eastern would prepare a project-level CEQA document discussing water quality impacts.

Because it provides a framework for evaluating groundwater impacts, implementation of the SNMP would have a less than significant potential to otherwise substantially degrade water quality. No mitigation is required, particularly given that the SNMP itself is a mitigation plan ensure that permit violations do not harm beneficial uses and result in mitigation projects, as appropriate.

b. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical component of the SNMP are the monitoring devices, which will be installed within wells, surface water locations, and instantaneous

discharge measurement stations. The installation of these devices has no potential to deplete groundwater or interfere with groundwater recharge.

The proposed Basin Plan objectives and SNMP management actions would not result in a change in groundwater production or groundwater recharge. In fact, if the objectives and management plans are not approved, Elsinore Valley could reduce its recycled water reuse in the region, and replace it with production of not-potable water.

c(i). *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Installation of the monitoring devices will not substantially alter the drainage pattern of any site in which a monitoring device will be installed. The devices are small and will not require earth moving equipment to be installed; furthermore, due to the small size of the monitoring devices, installation within surface water will not alter the course of a stream or river in a manner that would result in erosion or siltation on or offsite. Therefore, implementation of the SNMP would have a less than significant potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site. No mitigation is required.

C(ii). *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Installation of the monitoring devices will not substantially alter the existing drainage pattern of any site in which a monitoring device will be installed. The devices are small and will not require earth moving equipment to be installed; furthermore, due to the small size of the monitoring devices, installation within surface water will not alter the course of a stream or river in a manner that would result in substantially increasing the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. No mitigation is required.

c(iii). *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Installation of the monitoring devices would not involve any earth moving or construction equipment. Therefore, there is no potential for the implementation of the SNMP to create or contribute runoff which would excess the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. No impacts are anticipated and no mitigation is required.

c(iv). *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water

monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). No structures are proposed as part of the SNMP; therefore, implementation of the SNMP would not place structures such that the project would impede or redirect flows. Furthermore, as stated above, installation of the monitoring devices would not impede or redirect flows due to their location and small size. No impacts under this issue are anticipated and no mitigation is required.

d. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The Pacific Ocean is located more than 50 miles away from the Upper Temescal Valley GMZ, which eliminates the potential for a tsunami to impact the project area. The project is located adjacent to (northeast of) Lake Elsinore, south and southeast of the Upper Temescal Valley GMZ is Lake Mathews, and Lee Lake is located within the GMZ. Due to the proximity of lakes in the vicinity of the Upper Temescal Valley GMZ, seiche could occur under appropriate seismic conditions. However, the project does not propose any structures, and the installation of the monitoring devices is not anticipated to occur within a great enough distance to the bodies of water for seiche to pose a substantial risk of pollutant release. Furthermore, the proposed project does not propose the use of any pollutants would could be released in the event of a flood hazard or seiche inundation. Therefore, impacts under this issue are considered less than significant. No mitigation is required.

e. *Less Than Significant Impact* – The implementation of the SNMP enables and improves the implementation of the Regional Board's water quality control plan and also will provide information that could be useful in preparing sustainable groundwater management plans. Currently there are no groundwater quality objectives defined for the Warm Springs, Lee Lake, and Bedford GMZs in the Bain Plan. The Upper Temescal Valley GMZ is a proposed GMZ boundary that combines the existing Warm Springs, Lee Lake, and Bedford GMZs into one management unit, as shown on Figure 1. Establishing Basin Plan Objectives for the Upper Temescal Valley SNMP, together with the incorporation of the proposed SNMP management actions into the Basin Plan, will enable the Regional Board to determine if the water quality objectives are violated in the future, and if so there are management actions in place to handle salt mitigation requirements. Additionally, the SNMP would ensure that the Elsinore Valley and Eastern participate in the Task Force efforts and will adopt and implement TDS management strategies that are consistent with any new Regional Board management plan. Ultimately, implementation of the Basin Plan Objectives for the Upper Temescal Valley SNMP, together with the incorporation of the proposed SNMP management actions into the Basin Plan, would facilitate the incorporation of new objectives and standards to the Basin Plan, which, as stated throughout this environmental evaluation, would not result in any significant environmental impacts.

Implementation of the SNMP would recompute the current ambient water quality and preparing ambient water quality projections for the Upper Temescal Valley GMZ per the methodologies developed in the SNMP and outlined above by June 30, 2020 and thereafter based on a method and schedule approved by the Regional Board. Effectively, the adoption of the SNMP would provide strategies for Elsinore Valley and Eastern to continually assess the impacts of their discharge permits on the Upper Temescal Valley GMZ, and allow Elsinore Valley and Eastern to take appropriate action should a conflict or obstruction of the Basin Plan occur. Ultimately, adoption of the SNMP provides a framework for the Regional Board to evaluate the permit change request and ensure it is consistent with the SNMP and the Basin Plan. Therefore, though the SNMP as a project involves establishing Basin Plan Objectives for the Upper Temescal Valley GMZ, and incorporation of the proposed SNMP

management actions into the Basin Plan, these actions are not anticipated to cause a significant impact. Impacts under this issue are considered less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XI. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Implementation of the SNMP would not result in any substantial physical changes to the environment. The monitoring devices will be installed within existing wells or surface water; given that the devices are small, the SNMP has no potential to physically divide an established community. Therefore, no impacts under this issue are anticipated and no mitigation is required.

b. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Installation of the monitoring devices would not result in any change in land use and therefore, the implementation of the SNMP would not have the potential to conflict with an applicable land use plan, policy, or regulation. Therefore, no impacts under this issue are anticipated and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XII. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐

SUBSTANTIATION:

a&b. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). According to the California Department of Conservation California Geological Survey Mineral Lands Classification[10], there are some mineral resources within the Upper Temescal Valley GMZ. The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices are small and no earthmoving equipment would be required to install them within the surface, groundwater, and discharge locations. Furthermore, no locally important mineral resource recovery sites are located within the sites in which the monitoring devices would be installed. Therefore, it is not anticipated that any mineral resources would be impacted as a result of implementation of the SNMP. Therefore, the project would have a less than significant potential to result in the loss of availability of valuable mineral resources or result in the loss of availability of a locally important mineral resource recovery site.

[10] http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIII. NOISE: Would the project result in:				
a) Generation of a substantial temporary noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

SUBSTANTIATION

a. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Implementation of the SNMP would result in miniscule contributions to noise in the area through truck trips to each of the 16 sites in which a monitoring device must be placed. Additionally, on-going implementation of the SNMP once the monitoring devices have been installed may require up to two truck trips to each device or surface water monitoring site per month. Noise exposure from the minimal truck trips required to implement the SNMP would be below established standards for noise, and therefore, implementation of the SNMP would have a less than significant potential to generate substantial temporary noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. No mitigation is required.

b. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by vibration of room surfaces is called structure borne noises. Sources of groundborne vibrations include natural phenomena (e.g. earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g. explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous or transient. Vibration is often described in units of velocity (inches per second), and discussed in decibel (dB) units in order to compress the range of numbers required to describe vibration. Vibration impacts related to human development are generally associated with activities such as train operations, construction, and heavy truck movements. As stated above, implementation of the SNMP would require a small amount of truck

trips as part of the monitoring efforts; however, the truck trips would not be accomplished with heavy trucks; therefore, impacts to nearby sensitive receptors from groundborne vibration would be less than significant and no mitigation is required.

c. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The Upper Temescal Valley GMZ is not located within an airport land use plan or within two miles of a public airport or is not located within two miles of a private airstrip, therefore the project would not have the potential to expose people residing or working in the area to excessive noise levels as a result of being located near an airport or private airstrip. Therefore, no impacts are anticipated under this issue and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIV. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

SUBSTANTIATION

a. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices will be installed by existing employees of Elsinore Valley and Eastern, and therefore is not anticipated to induce substantial population growth within the Upper Temescal Valley GMZ area or surrounding communities. Implementation of the project would accommodate planned growth within the Upper Temescal Valley GMZ area and surrounding communities as it would improve the reliability of water supplies for future growth within the region.

b. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices are small and will be installed within wells, surface water and instantaneous discharge locations, which will not displace any housing or persons. Therefore, no impacts are anticipated under this issue.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XV. PUBLIC SERVICES: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered govern-mental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	☐	☐	☐	☒
b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices would not present a fire hazard, and given that there are no structures proposed as part of the SNMP, the proposed project is not anticipated to result in adverse impacts from fire protection. No mitigation is required.

b. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices would not require police protection to ensure their success, and given that there are no structures proposed as part of the SNMP, the proposed project is not anticipated to result in the need for additional police protection services. No mitigation is required.

c. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, an monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement

stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices would not be placed at any schools and would not create a need for additional schools. Therefore, the proposed project is not anticipated to result in the need for additional schools. No mitigation is required.

d. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices will not impact any parks, and the SNMP will not result in the need for additional park facilities. Therefore, impacts under this issue are considered less than significant.

e. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. These devices will not impact any other public services, and the SNMP will not result in the need for additional other public facilities, such as libraries. Therefore, impacts under this issue are considered less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVI. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. As stated under issue XIV(d) above, these devices will not impact any existing neighborhood and regional parks or other recreational facilities, and the SNMP will not result in increased use of existing parks. Therefore, impacts under this issue are considered less than significant.

b. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ. The SNMP does not include the development of recreational facilities and implementation of the SNMP would not require the expansion of recreational facilities. Therefore, impacts under this issue are considered less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVII. TRANSPORTATION: Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous inter-sections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

SUBSTANTIATION

a. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure). Implementation of the SNMP would result in miniscule contributions to traffic in the area through truck trips to each of the 16 sites in which a monitoring device must be placed. Additionally, on-going implementation of the SNMP once the monitoring devices have been installed may require up to two truck trips to each device or surface water monitoring site per month. The impact to traffic from the minimal truck trips required to implement the SNMP would have a less than significant potential to conflict with applicable plans, policies, or ordinances measuring the effectiveness of the performance of the circulation system. No mitigation is required.

b. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Implementation of the SNMP would result in miniscule contributions to traffic in the area through truck trips to each of the 16 sites in which a monitoring device must be placed. Additionally, on-going implementation of the SNMP once the monitoring devices have been installed may require up to one truck trip to each device per month. The impact to traffic and congestion from the minimal truck trips required to implement the SNMP would have a less than significant potential to conflict with an applicable congestion management program. Additionally, because the project would require few trips to accomplish the monitoring activities proposed by the SNMP, the vehicle miles traveled as a result of SNMP implementation would be minimal, and therefore would be consistent with CEQA Guidelines section 15064.3, subdivision (b). No mitigation is required.

c. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed

Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Installation of the monitoring devices would not create a hazard due to a design feature. The areas in which the monitoring devices will be installed are not within any roadways as they will be placed within wells, surface water, and instantaneous discharge locations, and are small in size such that once they are in place they would not affect the surrounding environment. Therefore, the implementation of the project would have a less than significant potential to substantially increase hazards due to a design feature. No mitigation is required.

d. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Installation of the monitoring devices would not create a hazard due to a design feature. The areas in which the monitoring devices will be installed are not within any roadways as they will be placed within wells, surface water, and instantaneous discharge locations, and are small in size such that once they are in place they would not affect the surrounding environment. Therefore, the implementation of the project would have a less than significant potential to result in inadequate emergency access. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVIII. TRIBAL CULTURAL RESOURCES: Would the project cause a substantial change in the significance of tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to the California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

SUBSTANTIATION

a&b. *Less Than Significant Impact* – The San Manuel Band of Mission Indians and the Soboba Band of Luiseño Indians have requested consultation under AB 52 from the Santa Ana Regional Water Quality Control Board (RWQCB) for any projects within their region. The RWQCB sent out letters to the San Manuel Band of Mission Indians and the Soboba Band of Luiseño Indians on June 26, 2018 to inform them of the proposed SNMP and provide them with the opportunity to be a consulting party under CEQA and AB 52. Neither Tribe requested to be a consulting party under AB 52 within the initial 30-day consultation period, and therefore, consultation has concluded. However, conversations between the Regional Board and the Tribes resulted in the request that the following language be included in this Supplemental Environmental Document:

The proposed Basin Plan Amendment will establish water quality objectives for the Upper Temescal Valley GMZ, and specify monitoring and reporting requirements for Eastern Municipal Water District and Elsinore Valley Municipal Water District. The Basin Plan Amendment itself does not involve any groundbreaking activities, however, EMWD and/or EVMWD may need to install additional groundwater monitoring wells to comply with the proposed Basin Plan Amendment. EMWD and/or EVMWD shall comply with the tribal consultation requirements under AB 52 prior to installing any such wells or beginning any related construction projects.

This is a mandatory requirement of CEQA, and therefore no mitigation is required to enforce tribal consultation should EMWD and/or EVMWD install any new wells or begin any related construction project.

The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites,

monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one new instantaneous discharge measurement station at the outlet of the All-American Aggregate Pit. The SNMP does not include any activities that would require ground disturbance or excavation, and is therefore not anticipated to affect tribal cultural resources. Therefore, impacts under this issue are considered less than significant and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIX. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

SUBSTANTIATION

a. *Less Than Significant Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). At this time, the SNMP does not propose any facilities to reduce the TDS or nitrate concentration in the source water or recycled water used in the Upper Temescal Valley. The SNMP is intended to monitor the concentration of TDS and nitrate in the Upper Temescal Valley GMZ, and therefore, impacts under this issue are considered less than significant. Implementation of the SNMP could result in the future construction of facilities to reduce the TDS concentration in the source water or recycled water to manage degradation caused by these activities. Should it be necessary to construct these facilities in the future, Elsinore Valley and Eastern would prepare a project-level CEQA document discussing the impacts from constructing a new water facility, as well as identifying any required mitigation measures.

Given that the only physical components of the project are the monitoring devices, which will be installed to monitor surface and groundwater within the Upper Temescal Valley GMZ, this effort is not anticipated to alter the drainage within any of the sites in which monitoring devices are installed such that the SNMP would require or result in the construction of new storm water drainage facilities or expansion of existing facilities. Therefore, no impacts related to new or expanded storm water drainage facilities are anticipated under this issue and no mitigation is required.

Finally, as stated under section VI Energy above, implementation of the proposed project is not anticipated to require electric power, natural gas, or telecommunications facilities. Additionally, the SNMP is not anticipated to result in any indirect construction of new or expanded electric power, natural gas, or telecommunications facilities. Therefore, no impacts related to new or expanded electric power, natural gas, or telecommunications facilities are anticipated under this issue and no mitigation is required.

b. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit and other existing structure that crosses the Temescal Wash). Implementation of the SNMP would not require any new entitlements to supply water to Elsinore Valley and Eastern's customers. No access to the water supply is anticipated to be required to implement the SNMP. Therefore, no impacts are impacts under this issue, and no mitigation is required.

c. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Implementation of the SNMP would not require connection to the wastewater treatment provider—which is either Eastern or Elsinore Valley within the Upper Temescal Valley GMZ—and would not induce growth such that the wastewater treatment provider would require expanded capacity to meet the demand for such services. Therefore, implementation of the SNMP would exceed the existing treatment capacity of a wastewater treatment provider serving the project area. No impacts are anticipated and no mitigation is required.

d. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Implementation of the SNMP requires installation of the monitoring devices within groundwater, surface water, and instantaneous discharge measurement stations. This action is not anticipated to generate any waste; therefore, with no other physical components of the project, the project would have no impacts on area landfills. No mitigation is required.

e. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Implementation of the SNMP requires installation of the monitoring devices within groundwater, surface water, and instantaneous discharge measurement stations. This action is not anticipated to generate any solid waste; therefore, with no other physical components of the project,

the project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. No impacts are anticipated under this issue and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XX. WILDFIRE: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). Installation of the monitoring devices would not impair or interfere with an emergency response or evacuation plan in the area. Furthermore, the only physical components of the proposed project are the monitoring devices, which would be located within existing wells. Therefore, the risk for wildfire at these well locations would not change as a result of implementing the SNMP as proposed. No impacts are anticipated, and no mitigation is required.

b. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). As previously stated, the only physical components of the proposed project are the monitoring devices, which would be located within existing wells. Therefore, due to the minimal physical components of the proposed SNMP, and their location within existing wells containing water, which generally would not exacerbate fire conditions if one was to occur on a well site, implementation of the SNMP would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. No impacts are anticipated, and no mitigation is required.

c. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). As previously stated, the only physical components of the proposed project are the monitoring devices, which would be located within existing wells. The on-going implementation of the SNMP once the monitoring devices have been installed may require up to one truck trip to each device per month. The visits to the monitoring sites would be commensurate with one driving to work each day, unless the vehicles are in poor condition or the driver is reckless, the potential for a vehicle to exacerbate fire conditions at any of the monitoring locations is miniscule. Therefore, implementation of the proposed SNMP is not anticipated to exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. No impacts are anticipated, and no mitigation is required.

d. *No Impact* – The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The proposed SNMP does not include the development of any new structures; the only physical components of the proposed project are the monitoring devices, which would be located within existing wells. Therefore, no structures or persons would be exposed to significant risks including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes as a result of implementing the SNMP. No impacts under this issue are anticipated and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XXI. MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☒	☐
c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

SUBSTANTIATION

The analysis in this Supplemental Environmental Document (SED) and the findings reached indicate that the proposed project can be implemented without causing any new project specific or cumulatively considerable unavoidable significant adverse environmental impacts. No mitigation is required to control potential environmental impacts of the proposed project to a less than significant impact level. The following findings are based on the detailed analysis of the SED of all environmental topics and summarized findings following this section.

a. *Less Than Significant Impact* – The Project has no potential to cause a significant impact any biological or cultural resources. The project has been identified as having minimal potential to degrade the quality of the natural environment, substantially reduce habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. Based on the historic disturbance of the project area and the minimal physical components proposed as part of the SED, the potential for impacting biological resources is low. The cultural resources evaluation concluded that the Project footprint does not contain any known important cultural resources. No ground disturbance is proposed; therefore, no mitigation is required to ensure that historical, archaeological, and paleontological resources are impacted by the proposed SNMP. Thus, implementation of the SNMP through this SED would have a less than significant potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

b. *Less Than Significant Impact* – The proposed project will not cause a significant impact on the environment once implemented or as devices are installed. The SNMP consists of monitoring and reporting of water quality as well as participation in Regional Board Task Forces to update the Santa Ana River Watershed Wasteload Allocation and update TDS management strategies, placement of monitoring devices within existing wells at various locations throughout the Upper Temescal Valley GMZ, installation of in-stream surface water monitoring sites, monitoring of one existing instantaneous discharge measurement station at the outlet of Lee Lake dam and installation of one or more new instantaneous discharge measurement stations (at the outlet of the All-American Aggregate Pit or other existing structure that crosses the Temescal Wash). The proposed SNMP would be beneficial to the environment by allowing the maximum beneficial use of the available waters by establishing antidegradation objectives for the Upper Temescal Valley GMZ. Implementation of the SNMP could result in the future construction of facilities to reduce the TDS concentration in the source water or recycled water; however, this is not anticipated to occur based on the outcome of the research contained in the SNMP. Therefore, the project would have a less than significant potential achieve short-term environmental goals to the disadvantage of long-term environmental goals.

c. *Less Than Significant Impact* – Implementation of the SNMP would not result in any cumulatively considerable impacts. Therefore, the potential cumulative environmental effects of implementing the proposed project have been determined to be less than considerable and thus, less than significant impacts.

d. *Less Than Significant Impact* – The Project will achieve long-term community goals by allowing the maximum beneficial use of the available waters by establishing antidegradation objectives for the Upper Temescal Valley GMZ. The short-term impacts associated with the Project, are less than significant, and the proposed Project is compatible with long-term environmental protection. No issues within this SED require the implementation of mitigation measures to reduce human impacts to a less than significant level. Thus, all environmental issues were found to have no significant impacts on humans. Therefore, the potential for direct human effects from implementing the proposed project have been determined to be less than significant.

Conclusion

This document evaluated all CEQA issues contained in the latest Initial Study Checklist form. The evaluation determined that either no impact or less than significant impacts would be associated with all issues discussed in this SED, which include Aesthetics, Agricultural and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, Transportation and Traffic, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire.

H. REASONABLE ALTERNATIVES TO THE PROPOSED PROJECT

Pursuant to the State Water Board's regulations for implementing CEQA (CCR title 23, sec. 3777[a]), this environmental review must include an analysis of reasonable alternatives to the proposed action. The intent of the alternatives analysis is to consider whether there are reasonable alternatives that would fulfill the underlying purpose of the Proposed Action which involves an Amendment to the Basin Plan to also achieve and protect water quality standards, but that would minimize or eliminate the potential adverse environmental effects of the Proposed Action. Further, pursuant to CEQA Section 15187, this environmental review must also include an analysis of reasonable foreseeable alternative means of compliance with the rule or regulation which would avoid or eliminate the identified impacts.

As described in *Section G. Environmental Checklist* of the SED, there are no potential adverse environmental impacts associated with the proposed action to amend the Basin Plan to incorporate the Upper Temescal Valley SNMP (GMZ boundary, antidegradation TDS and nitrate objectives, and implementation plan). As there are no potential environmental impacts which could be reduced, the only alternative addressed herein is the No Project Alternative.

Under the "No Project" Alternative, no action would be taken to amend the Basin Plan to combine the Bedford, Lee Lake and Warm Springs GMZs into the Upper Temescal Valley GMZ, to establish antidegradation TDS and nitrate objectives for the Upper Temescal Valley GMZ, or to include the Upper Temescal Valley SNMP in the implementation plan. The TDS and nitrate objectives would remain undefined for the Bedford, Lee Lake and Warm Springs GMZs. The two regulatory alternatives considered by the Regional Board included:

(1) *No Project Option 1 - Assume that existing TDS concentration limitations in the Elsinore Valley and Eastern waste discharge permit limits are protective of beneficial uses of the Bedford, Lee Lake and Warm Springs GMZ*. In this case, the Regional Board would continue to permit the Elsinore Valley and Easter recycled water discharges at 700 and 650 mg/L, respectively, and no assessment would be done to evaluate if the permitted limits have the potential to degrade water quality (as was the assumption immediately following the 2004 Basin Plan amendment). However, Elsinore Valley and Eastern would continue to have regulatory compliance issues for the periodic, short-term violation of the discharge limits in times of drought, conservation and high-TDS source water supplies. In the absence of the preferred regulatory alternative, the Regional Board would require the Elsinore Valley and Eastern to develop a salt offset plan to mitigate any ongoing exceedances of the discharge permit limitations (the historical offsets were already mitigated through the development of the Upper Temescal Valley SNMP study). Projected future exceedances by both agencies are expected to be occur at a rate similar to that observed since 2013. Table H-1 shows the annual TDS liabilities that Elsinore Valley would have accrued in the absence of the offset allowed for the development of the SNMP over the period of 2013 to 2017. The salt offset facility would need to be sized to mitigate an annual average liability of 4.3 tons.

Table H-1. Elsinore Valley TDS Liabilities That Would Have Accrued in the Absence of the Offset Allowed for the Development of the Upper Temescal Valley SNMP

Year	Total Discharge to Temescal Wash (acre-feet)	Range of Monthly 12-Month Rolling Average TDS (mg/L)	Salt Liability (tons)
2013	659	624 - 645	0
2014	612	655 - 690	0
2015	626	690 - 715	4
2016	642	698 - 738	12
2017	595	601 - 751	10
2018	629	583 - 698	0
		Total	26
		6-year average	4.3

Table H-2 shows the annual TDS liabilities that Eastern would have accrued in the absence of the offset allowed for the development of the SNMP over the period of 2013 to 2017. The salt offset facility would need to be sized to mitigate an annual average liability of 69 tons.

Table H-2. Eastern TDS Liabilities That Would Have Accrued in the Absence of the Offset Allowed for the Development of the Upper Temescal Valley SNMP

Year	Total Discharge to Temescal Wash (acre-feet)	12-Month Rolling Average TDS (mg/L)	Salt Liability (tons)
2013	2,726	668	67
2014	0	na	0
2015	0	na	0
2016	0	na	0
2017	2,920	737	345
2018	0	na	0
		Total	412
		6-year average	69

Together the Elsinore Valley and Eastern would need a salt offset facility that could mitigate 73 tons of TDS per year. The Elsinore Valley's consultant MWH performed a detailed engineering analysis of salt offset facilities prior to the development of the SNMP (MWH, 2012). The study identified two facility options to mitigate salt loading in the Upper Temescal Valley GMZs:

a. *Desalt recycled water effluent from the Regional WRF.* Two facility sizes were contemplated: 0.5 mgd and 1.0 mgd. Table H-3 summarizes the annual salt offset provided by the facility, the 2012 present value cost to build it, the equivalent annual cost, and the cost per ton of salt removal.

b. *Desalt groundwater pumped from the Upper Temescal Valley GMZs.* A 2.0 mgd facility was conceptualized. Table H-3 summarizes the annual salt offset provided by the facility, the 2012 present value cost to build it, the equivalent annual cost, and the cost per ton of salt removal

Table H-3. Cost of Potential Salt Offset Facilities for the Upper Temescal Valley

Facility Type	Facility Size (mgd)	Annual Salt Offset Provided (tons)	2012 Present Value Cost ($)	Equivalent Annual Cost ($)	Cost per Ton of Salt Removal ($/tons)
Recycled Water Desalter	0.5	607	11,170,000	820,000	1,350
Recycled Water Desalter	1.0	709	17,500,000	1,300,000	1,835
Groundwater Desalter	2.0	1,430	27,200,000	2,000,000	1,398

The annual salt offset provided by these facilities is far in excess of the liabilities that would need to be mitigated by Elsinore Valley and Eastern for the periodic violation of the discharge limitations. Even the smallest facility, sized at 0.5 mgd, exceeds the offset needs by about 530 tons per year. At the time the MWH study was completed, it was determined that these are not cost-effective facilities for mitigating the small salt liabilities accrued by the periodic and short-term exceedances of the TDS discharge limitations.

The proposed Basin Plan amendment is a preferred alternative to this approach because it establishes water quality objectives that can be used as a metric to more reasonably achieve the Regional Board goal of writing discharge permits that comply with receiving water body objectives and it provides for a more cost-effective approach to defining a salt offset program for periodic and short-term permit violations through participation in the Task Force efforts.

(2) *No Project Option 2 - Use an alternative methodology to establish TDS and nitrate objectives in each of the Bedford, Lee Lake and Warm Springs GMZs*. It has been established that it is not possible to use the methodology defined in the Basin Plan for establishing TDS and nitrate antidegradation objectives in these management zones. Thus, in this alternative the Basin Plan would be amended to incorporate objectives based on Best Professional Judgement. Prior to the proposed development of the SNMP, Regional Board staff proposed to set objectives based on TDS and nitrate concentrations measured at wells. As described in the Upper Temescal Valley SNMP, the TDS and nitrate concentrations measured at wells across the Upper Temescal Valley are highly variable both spatially and at individual wells. This variability is reflective of wet and dry climate cycles, the small effective storage, and the surface and groundwater interchange along the Temescal Wash. For example, review of current and historical data show that annualized average TDS concentrations at individual wells can vary by as much as 800 mg/L, and the range in TDS concentrations across all wells varies from about 250 to 1,500 mg/L. Using the measured TDS concentration results alone could lead to setting TDS objectives that are too high to protect beneficial uses. Or, it could result in setting the limits too low and resulting in high compliance costs that might not provide an actual water quality benefit relative to actual historical, current or projected future ambient water quality. This is not a preferred option because it would be difficult to build a scientifically-defensible argument for any particular objective based on the extremely variable water quality conditions.

If objective values were established that were less than the current waste discharge limitations, then the Regional Board would be required to lower the discharge limitations or require the Elsinore Valley and Eastern (and other dischargers in the Upper Temescal Valley – City of Corona and Temescal Valley Water District) to implement a salt offset program. As described for No Project Option 1, the cost to implement salt offset facilities in the Upper Temescal Valley ranges from about $11M to $27M (2012 Present Value Cost).

The Upper Temescal Valley SNMP study provided a robust, scientifically-defensible method to establish TDS and nitrate objectives in a manner that is consistent with key principles of the Regional Board-approved methodology used establish antidegradation objectives in the 2004 Basin Plan Amendment. Under that approach, salt offset facilities are not necessary to protect beneficial uses or comply with the antidegradation objectives. Thus, the costs that would potentially be incurred by implementing an alternative approach are not warranted. Adoption of the preferred action provides the Regional Board with a regulatory framework that allows ongoing assessment of ambient water quality and adjustment to the SNMP implementation actions should water quality or other planning and regulatory conditions change.

I. PRELIMINARY STAFF DETERMINATION

☒	The proposed project COULD NOT have a significant effect on the environment, and, therefore, no alternatives or mitigation measures are proposed.
☐	The proposed project MAY have a significant or potentially significant effect on the environment, and therefore alternatives and mitigation measures have been evaluated.

Lead Agency (signature) Date

J. REFERENCES

California Code of Regulations, Title 14, Section 15251(g)

California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) gathered for the Corona South, CA

South Coast Air Quality Management District, 2016 Air Quality Management Plan (AQMP) adopted March 2017

U.S. Geological Survey Quadrangles for Alberhill, CA; Lake Elsinore, CA; and Lake Mathews, CA

Wildermuth Environmental, Inc., Salt and Nutrient Management Plan for the Upper Temescal Valley, Draft August 2016; Final September 2017

http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/

http://geotracker.waterboards.ca.gov/

http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps

K. ACRONYMS AND ABBREVIATIONS

µg/L	microgram per liter
acre-ft	acre feet
acre-ft/yr	acre feet per year
AQMP	Air Quality Management Plan
Basin Plan	Water Quality Control Plan for the Santa Ana River Basin
BPA	Basin Plan Amendment
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
DWR	Department of Water Resources
EC	Electrical Conductivity
EMWD	Eastern Municipal Water District
EPA	Environmental Protection Agency
EV	Evapotranspiration
EVMWD	Elsinore Valley Municipal Water District
GCG	Global Climate Change
GHG	Greenhouse Gas
GMZ	Groundwater Management Zone
LUST	Leaking Underground Storage Tanks
NPDES	National Pollutant Discharge Elimination System
QA/QC	Quality Assurance/Quality Control
RCFC&WCD	Riverside County Flood Control and Water Conservation District
Regional Board	Regional Water Quality Control Board, Santa Ana Region
RWRF	Regional Water Reclamation Facility
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SED	Substitute Environmental Document
SNMP	Salt and Nutrient Management Plan
SWP	State Water Project
TDA	Tom Dodson & Associates
TDS	Total Dissolved Solids
TIN	Total Inorganic Nitrogen
TVWD	Temescal Valley Water District
USGS	U.S. Geological Survey
WEI	Wildermuth Environmental, Inc.
WLAM	Wasteload Allocation Model
WRF	Water Reclamation Facility

FIGURES

APPENDIX 1

APPENDIX 2

Responses to Peer Review Comments

Responses to Dr. Alexandra Lutz's Peer Review Comments (Reviewed Conclusions 1, 2, 4, and 5)

Lutz Summary of Conclusion 1: *Groundwater Basin Storage Capacity is appropriately estimated using well driller's reports.*

Response: Noted.

Lutz Summary of Conclusion 2: *Sufficient evidence is given for appropriately applying the CSRM model to compute historical water quality.*

Response: Noted.

Lutz Summary of Conclusion 4: *Various data sources are used and sound approaches are employed to derive appropriate groundwater modeling input parameters.*

Response: Noted.

Lutz Summary of Conclusion 5: *Various data sources are used and sound approaches are employed. The method used to establish current ambient water quality and assimilative capacity is appropriate.*

Response: Noted.

Lutz Summary of Peer Review: *A substantial amount of work has been done, as reflected in the staff report and evidenced by supporting documents. Within all this information, two very small items are unclear - evaporation at percolation ponds and evapotranspiration of crops. Evaporation at ponds is probably insignificant due to rapid percolation, and evapotranspiration of crops is probably already accounted for in irrigation water. These two small details are very small portions of a large values and do not diminish the overall work. The approaches use extensive, comprehensive, and measured information for aquifer parameters, groundwater quality, groundwater pumping, and some modeling parameters. When approaches are employed, assumptions are sound and stated and methods are explained. A substantial amount of work is accumulated into the staff report and is supported by numerous other documents.*

Response:

- Yes, the study did assume that evaporation at ponds was insignificant due to their small size and minor contribution to the total recharge to the groundwater basin.
- Yes, the study's approach to computing the deep infiltration of applied water incorporated crop evapotranspiration. Assumptions were based on typical ET values for irrigated land use types.

Responses to Dr. Gretchen Miller's Peer Review Comments (Reviewed Conclusions 1, 2, 4, 5, and 6)

Miller Summary of Conclusion 1: *The method described should provide a reasonable, if highly uncertain, volume of stored water in the aquifer. However, inconsistencies in the calculations and the lack of support for the parameter assumptions leads to lower confidence that the storage volumes presented are correct.*

Response: In your review, you correctly identified that the reported range of storage volumes were not consistent with the formulas and assumptions presented in the report. As noted in your review comments, the reported values should have been 25,500 to 50,900 acre-feet based on the reported formula and reported assumptions of the length, average width, average depth, and specific yield of the

groundwater basin. During the development of the technical approach, a larger range of assumptions for the width, depth, and specific yield of the sediments was used to initially identify that the storage volume of the Upper Temescal Valley GMZ could range from 25,000 to 100,000 acre-feet. The range of specific yield values tested was 0.1 to 0.3, based on literature values for the mix of younger, older, and very old quaternary alluvium that comprise the water bearing sediments of the basin. The final report did not accurately document the full range of assumptions considered. While the reported values are inconsistent with the reported formulas and assumptions, through the CSRM parameter testing process applied in Section 3, the lower upper range of storage volumes (25,000 and 100,000 acre-feet) were ruled out as unlikely based on observed variability in the water quality concentrations measured at wells. Thus, the report assumption that the groundwater storage volume is likely around 75,000 acre-feet is still appropriate for the study.

Miller Summary of Conclusion 2: Se*veral simple statistical tests should be performed to ensure that the set of model parameters selected is the one that best fits the available data. More extensive justification should be provided for the storage capacity selected for the final model.*

Response: The use of goodness of fit plots to compare modeled and measured data, or other similar statistical analyses, is not possible for the technical approach used for this study. There was insufficient data to build or calibrate complex numerical models where such statistics could be applied. The technical approach used for the study relied on an approach that estimated the reasonable range of various parameters based on data and local hydrogeologic conditions. The CSRM model was used to test the range of parameters and select/use those parameters that produced an aggregate basin-wide estimate of water quality that tracked the trend in measured TDS concentrations at wells. The parameter testing process was described in Section 3.2 of the report. Although there are uncertainties in the parameters, this approach is appropriate given the limited availability of data for the study area. With regard to storage capacity, please see response to the summary of Conclusion 1.

Miller Summary of Conclusion 4: *Input parameters specific to this analysis appear to be scientifically defensible, although subject to considerable uncertainty.*

Response:

- With regard to the inconsistent values noted in the first paragraph of the detailed response, the nitrate value of 3 mgl stated in the text in Section 4.2.2 on page 2-3 is a typo. The nitrate value of 5 mgl as stated in Table 4-A on page 4-2 is the correct value and is the value relied on in the analysis.
- With regard to the estimation of the rising groundwater term noted in the third paragraph of the detailed response, its derivation was described in Section 3.2 of the report. The basis for assuming rising groundwater is occurring is the geology and geometry of the basin, which includes at least three bedrock narrows. The annual rising groundwater volume was estimated annually based on the total recharge for the year and the assumption that the basin storage is always near full. The latter assumption is based on the review of the significant water level data record that exists for the historical period and the results of the parameter testing process described in Section 3.2 of the report.

Miller Summary of Conclusion 5: *Appropriate changes to the model have been made to allow for calculations representative of the current period.*

Response: In the third paragraph of the detailed response, it is noted that the 25 percent nitrogen-loss rate assumed in the study is likely conservative and its basis cited. The conservative estimate errors in favor of protecting groundwater quality. It is the Santa Ana Regional Board's practice to allow a minimum of a 25 percent nitrogen-loss assumption in the absence of field studies to estimate site specific nitrogen losses. Larger loss rates are allowed if field studies confirm that loss rates are greater than 25 percent. No field studies on nitrogen loss have been performed in the Upper Temescal Valley.

Miller Summary of Conclusion 6: *The scenarios selected and overall analysis are appropriate; however, several notable details of the modeling are internally inconsistent and should be clarified. The long-term implications of the scenarios associated with urbanization (#3, #4) are potentially troublesome, making the regular monitoring and reporting detailed in Section 6 critical for ongoing aquifer protection.*

Response:

- With regard to the inconsistent values noted in the third paragraph of the detailed response, the nitrate value of 5 mgl as stated in Table 4-A on page 4-2 is the correct value and is the value relied on in the analysis.
- With regard to the conversion issues noted in the fourth paragraph of the detailed response, the confusion is related to incorrect column and unit headings in Table 5-A. The model input was checked by the consultant and confirmed that the correct data was used for the projections.

Miller Summary of Peer Review: *Given the lack of data available for the Upper Temescal Valley GMZ, a number of assumptions and approximations were needed to complete its Salt and Nutrient Management Plan. In general, the analysis used a defensible set of best practices, with two notable exceptions. The first is the characterization of the storage capacity, which appears to have been insufficiently detailed and/or documented. The second is the failure to appropriately compare the modeling results with the available data and provide an assessment of the uncertainty inherent in the computations. For example, the results of the modeling are not sufficiently presented for the lower storage capacity values. To fully understand the uncertainty associated with the modeling, the full range of current ambient water quality (i.e., Table 4-B) predicted by the range of simulations (i.e., Table 4-A) should be shown. This step would allow for more informed decision making.*

Throughout the report, I also noted that few to no mass-balance calculations or comparisons were performed for water quantity or the constituents under study. Such calculations are frequently conducted under similar circumstances, and their lack made it difficult to check for errors or to understand the big picture with regard to mass fluxes into and out of the basin. While the flow weighted concentrations were helpful, an accounting of the annual TDS mass entering and leaving the basin categorized by route would be illustrative. In this way, it could quickly be demonstrated, for instance, that intakes from the Colorado River accounted for a certain percent of annual salt accumulations in the aquifer. Such an analysis should be straightforward given the data already presented in the document and could greatly aid management decisions.

Response:

- With regard to the limitations noted in the first paragraph of the summary, please see responses to Conclusions 1 and 2.
- The mass balance calculations for the projection period are presented in Appendix C of the report.

Responses to Dr. David Hyndman's Peer Review Comments (Reviewed Conclusions 1, 2, 3, 4, 5, and 6)

Hyndman Summary of Conclusion 1: *Although the estimates of aquifer storage made here were simplified with the triangular assumption and back of the envelope estimates of specific yield, the general approach is workable. Depending on the importance of the storage volume for any corrective measures, it would be worth updating these estimates using more sophisticated methods.*

Response: With regard to the limitations noted in the third paragraph of the detailed response to this conclusion regarding the assumptions for specific yield, there were no available pumping test data that could be used to better estimate the values. Note that the requirement for the SNMP participants to update the SNMP every five years, including consideration of improved methods to compute current and projected water quality conditions, enables the use of more sophisticated methods in the future based on new data that might be collected in the study area over time.

Hyndman Summary of Conclusion 2: *Although more advanced methods exist to estimate changes in solute concentrations in such an alluvial aquifer system, the CSTR method appears to be adequate for this case.*

Response: Noted.

Hyndman Summary of Conclusion 3: *For the purpose of evaluating concentrations within the range of land use conditions that have been observed, this appears to be a reasonable approach.*

Response: Noted.

Hyndman Summary of Conclusion 4: *Overall, the approach used for groundwater quality modeling parameters are reasonable. There are a few choices that appear to be somewhat arbitrary, such as the 50% and 25% efficiency coefficients, that could be improved with further data and modeling.*

Response: Although the report could have better described the specifics of how the irrigation efficiencies used for the historical and current periods (50% and 75%, respectively) were derived from prior work, they were based on the publications noted on Page 2-12 of the report, including:

- Historical Period Values for agriculture: California Department of Water Resources. (1975). Vegetative Water Use in California, 1974. Bulletin No. 113-3
- Historical Period Values for urban: Water Resources Engineers, Inc. (1970a) Unit Water Requirements and Waste Increments, a Final Report on Task VI-6.
- Current Period Values for agriculture and urban: WEI. (2015a). Draft 2013 Chino Basin Groundwater Model Update and Recalculation of Safe Yield Pursuant to the Peace Agreement. Prepared for the Chino Basin Watermaster.

In the seventh bullet of the detailed response, it is noted that the 25 percent nitrogen-loss rate assumed in the study is arbitrary. It is the Santa Ana Regional Board's practice to allow a minimum of a 25 percent nitrogen-loss assumption in the absence of field studies to estimate site specific nitrogen losses. This conservative estimate errors in favor of protecting groundwater quality. Larger loss rates are allowed if field studies confirm that loss rates are greater than 25 percent. No field studies on nitrogen loss have been performed in the Upper Temescal Valley.

Hyndman Summary of Conclusion 5:

- Since the WLAM model has been successfully used in this basin historically, it is reasonable to use similar assimilative capacity numbers for TDS and nitrate to assess current water quality issues.
- The methods and assumptions used for the WLAM and CSRM for the current period are similar to those used for the analysis in the historical period.
- The changes to the simulation start date and initial TDS and nitrate concentrations are reasonable.
- Recharge of recycled water via the streambed and percolation ponds is reasonably accounted for in the recharge term with concentrations based on known recycled water concentrations. The annual assumption is likely adequate for the system, although seasonal exceedances might be important to quantify.
- The assumption that recharge can be calculated based on the volume discharged to the ponds, with TDS and nitrate concentrations based on measured values is reasonable.
- It would again be helpful to check the assumed irrigation efficiency of 75% for deep infiltration of applied water. This number again seems to be somewhat arbitrary.
- Basing groundwater production and ET for the current period on reported production data for a recent 20-year period is reasonable.

Response: Noted.

Hyndman Summary of Conclusion 6: *Scenarios are always challenging to address, however they are one of the most important aspects of modeling. Here, the approach has been to evaluate the most likely change in factors including land cover including urbanization, which would also affect the changes in groundwater production.*

Response: The fifth bullet of the detailed response notes that the projections don't consider changes in agricultural practices for nitrate application, which are likely to be reduced in the future. Table 2-1 in the report shows that agricultural land is decreasing in this area through build-out. The assumptions applied are conservative and more protective of groundwater quality in terms of interpretation of regulatory compliance outcomes.