California Regional Water Quality Control Board
Santa Ana Region

TENTATIVE RESOLUTION NO. R8-2025-0014

Resolution Amending the Water Quality Control Plan for the Santa Ana River Basin to Revise the Nutrient Total Maximum Daily Loads (TMDLs) for Lake Elsinore and Canyon Lake, San Jacinto River Watershed, Riverside County California

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

1. The federal Clean Water Act (CWA) and the state Porter-Cologne Water Quality Control Act (Porter-Cologne Act) requires the Santa Ana Water Board to establish water quality standards for each waterbody within its region. (33 U.S.C. § 1313; Wat. Code, § 13240.) Water quality standards include beneficial uses, water quality objectives (numeric and narrative) to protect those beneficial uses, and the antidegradation policy. The Porter-Cologne Act also requires the Santa Ana Water Board to adopt programs of implementation to achieve the prescribed water quality objectives. (Wat. Code, § 13242.)

2. On March 11, 1994, an updated Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) was adopted by the Santa Ana Water Board, and was approved by the State Water Resources Control Board (State Water Board) on July 21, 1994, and approved by the Office of Administrative Law (OAL) on January 24, 1995. Subsequent amendments to the Basin Plan have been similarly adopted and approved.

3. The Basin Plan specifies the following beneficial uses (existing or potential) for Lake Elsinore: warm freshwater aquatic habitat (WARM); body contact recreation (REC1); non-body contact recreation (REC2); and wildlife habitat (WILD). Lake Elsinore was exempted from the MUN designation, consistent with the Sources of Drinking Water Policy (State Water Board Resolution No. 88-63), by Resolution No. R8-1989-0042, due to the naturally occurring uncontrollable elevated salinity concentrations.

4. The Basin Plan specifies the following beneficial uses for Canyon Lake: warm freshwater aquatic habitat (WARM); body contact recreation (REC1); non-body contact recreation (REC2); wildlife habitat (WILD); municipal and domestic water supply (MUN); agriculture water supply (AGR); and groundwater recharge (GWR).

5. The Basin Plan prescribes the following numeric water quality objectives for Lake Elsinore: TDS, 2,000 mg/L; and Total Inorganic Nitrogen 1.5 mg/L; and for Canyon Lake: TDS, 700 mg/L; Hardness, 325 mg/L; Sodium, 100 mg/L; Chloride, 90 mg/L; Total Inorganic Nitrogen, 8 mg/L; and Sulfate, 290 mg/L.

6. The numeric water quality objectives for both Lake Elsinore and Canyon Lake were established based on ambient water quality measurements collected between 1973-74 and serve as anti-degradation targets for the lakes.

7. The narrative water quality objective in the Basin Plan for algae in inland surface waters, which includes Lake Elsinore and Canyon Lake, provides that "*Waste discharges shall not contribute to excessive algal growth in inland surface receiving waters*."

8. For inland surface waters, the water quality objective for dissolved oxygen in the Basin Plan specifies that "The dissolved oxygen content of surface waters shall not be depressed below 5 mg/L for waters designated WARM…as a result of controllable water quality factors. In addition, waste discharges shall not cause the median dissolved oxygen concentration to fall below 85% of saturation or the 95th percentile concentration or fall below 75% of saturation within a 30-day period." These narrative objectives apply to both Lake Elsinore and Canyon Lake.

9. Monitoring data collected from 2002-2024, consistently indicate that the water quality objectives for algae and dissolved oxygen are not being met in Lake Elsinore. This is supported by a history of significant algal blooms, low dissolved oxygen concentrations, and fish kills. Sampling and analytical data indicate that numeric water quality objectives for total inorganic nitrogen are also not being met in Lake Elsinore. As a result, Lake Elsinore's beneficial uses are being adversely impacted.

10. During the 2023-2024 monitoring year, the mean annual lake-wide depth integrated and surface samples for chlorophyll-a concentrations and the 12-month rolling mean for dissolved oxygen concentrations in the hypolimnion in Canyon Lake were below the 2004 TMDL targets for 2020.This has resulted in a significant reduction in excessive algae growth since 2006 and higher dissolved oxygen concentrations due to the periodic application of alum.[1] When low dissolved oxygen conditions occur, the beneficial uses in Canyon Lake are adversely impacted. Discharges of nutrients from Canyon Lake during heavy rain events may also contribute to impairments in Lake Elsinore.

[1]Aluminum sulfate "alum" is a USEPA-approved pesticide commonly used to prevent the growth of nuisance algae. When added to the lake, it works by binding to available phosphorus, reducing the opportunity for algae to grow.

11. Section 303(d) of the Clean Water Act requires each state to identify the waters within its boundaries that do not meet water quality standards. Those waters are placed on the state's section 303(d) list (303(d) list). The Santa Ana Water Board is required and authorized to establish a total maximum daily load (TMDL) for those pollutants identified as causing impairment of waters within its jurisdiction on the 303(d) list. Additionally, under Water Code section 13242, the Santa Ana Water Board is required to develop an implementation program to achieve water quality objectives.

12. On March 11, 1994, as a result of the beneficial use impacts to Lake Elsinore and Canyon Lake, the Santa Ana Water Board recommended listing both lakes as water quality limited in accordance with section 303(d) of the Clean Water Act under Resolution No. 94-029. Subsequently, the Santa Ana Water Board has reaffirmed these recommendations during each listing cycle, including the 2018 303(d) list (approved by the State Water Board and the U.S. Environmental Protection Agency [U.S. EPA]), and the 2024 303(d) list approved by the State Water Board, and by U.S. EPA on December 13, 2024.Currently, Canyon Lake is listed for exceeding the numeric objectives for nutrients and Lake Elsinore is listed for exceeding the numeric objectives for nutrients and low dissolved oxygen. Phosphorus and nitrogen have been found to be the nutrients causing these impairments.

13. On December 20, 2004, the Basin Plan was amended by Resolution R8-2004-0037, a *"Resolution Amending the Water Quality Control Plan for the Santa Ana River Basin to Incorporate Nutrient Total Maximum Daily Loads for Lake Elsinore and Canyon Lake."* The Basin Plan amendment received final approval from U.S. EPA on September 30, 2005. The amendment was added to Chapter 6, TMDLs, Section 6-1. The amendment established TMDLs for nutrients in both lakes, which included numeric targets for chlorophyll-a, ammonia, and dissolved oxygen, as well as waste load allocations (WLAs) for point source discharges and load allocations (LAs) for non-point source discharges of nutrients (Total Nitrogen and Total Phosphorous) and an implicit margin of safety (MOS). The 2004 TMDLs also included an implementation plan, attainment schedule, and monitoring and reporting requirements.

14. The Lake Elsinore and San Jacinto Watersheds Authority (LESJWA) is a joint powers authority founded by the City of Lake Elsinore, City of Canyon Lake, the County of Riverside, Elsinore Valley Municipal Water District (EVMWD), and the Santa Ana Watershed Project Authority (SAWPA). The TMDL Task Force includes Riverside County; the Cities of Beaumont, Canyon Lake, Hemet, Lake Elsinore, Menifee, Moreno Valley, Murrieta, Perris, Riverside, San Jacinto, and Wildomar; EVMWD; San Jacinto Agricultural Operators; San Jacinto Dairy and Confined Animal Facility Operators; California Department of Transportation (Caltrans); California Department of Fish and Wildlife (CDFW); Eastern Municipal Water District (EMWD); the U.S. Air Force (March Air Reserve Base); March Joint Powers Authority; and the U.S. Forest Service. LESJWA and the TMDL

Task Force have been leading efforts to improve water quality in Lake Elsinore, Canyon Lake, and the San Jacinto Watershed since 2006. LESJWA assisted the Santa Ana Water Board in the development of the 2004 TMDLs and the Task Force has been leading efforts to implement the 2004 TMDLs through the implementation of nutrient source control measures throughout the watershed and in both lakes.

15. LESJWA and the TMDL Task Force has also managed the water quality monitoring required by the 2004 TMDLs, which was approved by Resolution R8-2006-0031, a "Resolution Approving the Lake Elsinore and San Jacinto Watersheds Authority Monitoring Program Proposal Submitted Pursuant to the Lake Elsinore and Canyon Lake Nutrient Total Maximum Daily Loads Specified in the Water Quality Control Plan for the Santa Ana River Basin."

16. After 19 years of implementing sediment and nutrient control projects in Lake Elsinore and Canyon Lake and the watershed, current monitoring demonstrates that water quality in both lakes has improved. There have been reductions in the load of nutrients discharged to the lakes and in the flux of nutrients from the sediments in the lakes. However, both Lake Elsinore and Canyon Lake remain impaired by nutrients despite these reductions.

17. Task 14 of the 2004 TMDLs specifically required that the TMDLs be re-evaluated at least once every three years. LESJWA and the TMDL Task Force worked closely with Santa Ana Water Board staff to prepare a report entitled *"Draft for Public Review and Peer Review TMDL Technical Report: Revision to the Lake Elsinore and Canyon Lake Nutrient TMDLs, December 1, 2018."* Subsequently, the draft technical report was revised to address public and peer review comments, which are included in the 2024 *"Revised TMDL Technical Report – Revisions to the Lake Elsinore and Canyon Lake Nutrient TMDLs."* This report provides the Santa Ana Water Board with the recommendations of the TMDL Task Force and Santa Ana Water Board staff for replacing the 2004 TMDL for Nutrients in Lake Elsinore and Canyon Lake. The 2024 Revised TMDL Technical Report provides the required elements for a TMDL which includes the problem statement, numeric targets, source analysis, linkage analysis, waste load allocations and load allocations, margin of safety, implementation plans and schedule, and monitoring plan. The 2024 Revised TMDL Technical Report also includes (1) a Draft Environmental Analysis and an Environmental Factors Analysis (environmental checklist) and (2) an Economic Analysis.

18. The Basin Plan amendment shown in Attachment A to this Resolution was developed in accordance with Clean Water Act section 303(d) and Water Code section 13240 *et seq*. The amendment is proposed for Chapter 6, "Total Maximum Daily Loads," of the Basin Plan. The Basin Plan amendment includes background information concerning the water quality impairment being addressed, and the sources of nutrients to Canyon Lake and Lake Elsinore. The revised TMDLs are supported by new and updated monitoring data, analysis,

and modeling in the 2024 Revised TMDLs Technical Report, which provides the scientific evidence to support the replacement of the 2004 TMDLs. It is appropriate to replace the 2004 TMDLs based on the evidence provided in the 2024 Revised TMDL Technical Report to address the following:

1) Asymmetric and highly variable precipitation, runoff, nutrient loading, and reference conditions;
2) Revised estimates and modeling of Mystic Lake's water storage capacity;
3) Dynamic lake levels;
4) Rapidly changing land use and the need to assess minimal source contributions (i.e., agricultural operations, jurisdictions that have minimal discharges to the watershed);
5) New, more detailed modeling of both lakes and the watershed;
6) Implementation of other regulatory requirements (e.g. concentrated animal feeding (CAF)facilities permits, septic regulations (onsite wastewater treatment systems or OWTS), increased on-site retention resulting from municipal separate stormwater sewer system (MS4) permit implementation, landscape irrigation ordinances);
7) Variability in salinity; and
8) New information on nutrient decay rates.

19. To ensure compliance with the water quality standards in the Basin Plan, the Basin Plan amendment specifies interim and final numeric targets for Lake Elsinore and Canyon Lake for chlorophyll-a, ammonia, and dissolved oxygen that are based on best estimates of the natural reference condition for each lake prior to significant urban and agricultural development in the watershed. These numeric targets will be used to provide direct measures of attainment of the narrative water quality objective for algae. The water quality objective for algae requires that waste discharges shall not contribute to excessive algal growth in the receiving waters. The numeric targets provide a method to track improvements in water quality resulting from reductions in nitrogen and phosphorus loads.

20. The Basin Plan amendment also specifies revised final TMDLs that include waste load allocations for point source discharges (WLAs), load allocations for nonpoint source discharges (LAs) for total phosphorus and total nitrogen for Lake Elsinore, Canyon Lake (Main Body), Canyon Lake (East Bay), and Canyon Lake discharges to Lake Elsinore and an implicit MOS. The revised WLAs and LAs are based on the revised reference nutrient loadings. The revised WLAs and LAs will be used as water quality-based effluent limits and other requirements in waste discharge requirements, waivers, and other regulatory measures to control the discharge of Total Nitrogen and Total Phosphorous to the lakes and will lead to attainment of the final revised numeric targets and TMDLs.

21. The Basin Plan amendment specifies an implementation plan to reduce nutrients in discharges to Lake Elsinore and Canyon Lake. The Basin Plan Amendment

also includes an implementation plan to control the flux of nutrients from in-lake sediments to the water column. The implementation plan includes a schedule to achieve the numeric targets and related milestones, WLAs and LAs, as well as a monitoring program to track progress towards attaining the 2024 TMDLs. The Santa Ana Water Board continues to support the use of an approved pollution offset program and in-lake projects to reduce nutrient loads from sediments to achieve the WLAs, LAs, and compliance with the numeric targets rather than relying only on source control methods in the watershed.

22. Additional time will be needed to meet the 2024 revised TMDLs because the WLAs and LAs are more stringent than those established in the 2004 TMDLs. Attachment A includes an updated implementation plan and schedule for the 2024 revised TMDLs. This plan and schedule require that current nutrient controls be continued and expanded and further requires that additional nutrient reduction plans be implemented and projects completed within 10 years of the effective date of the revised TMDLs (final approval by USEPA).

    The 2024 revised TMDLs also specify a new attainment deadline for when the Santa Ana Water Board expects Lake Elsinore and Canyon Lake to meet the revised Nutrient TMDLs. The attainment deadline is based on the revised reference condition for both lakes and is set at 30 years after the effective date of the TMDLs. The Santa Ana Water Board recognizes that 30 years of data may be needed to fully demonstrate compliance with the final numeric targets and allocations, depending on the hydrologic conditions over the next 30 years. In addition, it will likely take at least 30 years to attain reductions in the nitrogen and phosphorous loads from the in-lake sediments, which are the largest single source of nutrients in the lakes. The TMDLs also require both annual and triennial reports that describe the measured progress towards meeting water quality standards and the tasks related to meeting the TMDL numeric targets.

23. The Basin Plan amendment is consistent with the Statement of Policy with Respect to Maintaining High Quality Waters in California (State Antidegradation Policy, State Water Board Resolution No. 68-16) and the federal antidegradation requirements (40 CFR § 131.12). The amendment requires the restoration of water quality and the attainment of water quality standards and does not allow the temporary or long-term degradation of water quality.

24. The Santa Ana Water Board has considered the costs associated with implementation of this amendment, as well as costs resulting from failure to implement nutrient control measures necessary to prevent adverse effects on beneficial uses. The implementation plan in the Basin Plan, which includes extended compliance schedules and implements a phased TMDL and adaptive management approach, will ensure that implementation expenditures are reasonable and apportioned equitably among responsible parties.

25. Pursuant to Public Resources Code section 21080.5, the Resources Agency has approved the State Water Board's basin planning process as a "certified regulatory program" that adequately satisfies the California Environmental Quality Act (CEQA, Pub. Res. Code, § 21000 et seq.) requirements for preparing environmental documents. (Cal. Code Regs., tit. 14, § 15251, subd. (g); Cal. Code Regs., tit. 23, § 3782.) In lieu of preparing an environmental impact report, mitigated negative declaration, or negative declaration, the Santa Ana Water Board is required to prepare a substitute environmental document (SED). The SED for the Basin Plan amendment is comprised of the 2024 Revised TMDL Technical Report, including the environmental analysis [Section 9] and economic considerations [Section 10], comments and the response to comments, and this resolution. The Lake Elsinore and Canyon Lake Nutrient TMDLs SED meets the environmental documentation requirements set forth under the State Water Board's CEQA regulations. (Cal. Code Regs., tit. 23, §§ 3775–3781.)

26. On January 16, 2019, a CEQA scoping meeting was held at the Elsinore Valley Municipal Water District (EVMWD). Interested persons were given the opportunity to comment on the appropriate scope and content of the Lake Elsinore and Canyon Lake Nutrient TMDLs SED. On December 13, 2018, a notice of the CEQA Scoping meeting was sent to potentially interested and affected parties. Comments received at the scoping meeting, where appropriate, were addressed in the staff report, SED, and in the proposed TMDLs.

27. On May 3, 2019, the Santa Ana Water Board discussed this matter at a duly noticed public workshop conducted after notice was given to all interested persons. Based on the discussions held at those workshops, the Board directed staff to prepare the appropriate Basin Plan amendment and related documentation to incorporate the Revised Lake Elsinore and Canyon Lake Nutrient TMDLs.

28. In preparing the SED, the Santa Ana Water Board has considered the requirements of Public Resources Code section 21159 and California Code of Regulations, title 23, sections 3775-3781. The Santa Ana Water Board intends the SED to serve as a tier one environmental review. This analysis is an analysis of the reasonably foreseeable consequences of the adoption of this regulation from a programmatic perspective. Project level impacts will need to be considered in any subsequent environmental analysis performed by other public agencies pursuant to Public Resources Code section 21159.2.

29. The Santa Ana Water Board, after consideration of the Lake Elsinore and Canyon Lake TMDLs SED, concludes that there will be no significant adverse impacts, either individually or cumulatively, on the environment.

30. The proposed amendment meets the “Necessity” standard of the Administrative Procedures Act, Government Code section 11352, subdivision (b). Federal regulations require that TMDLs be incorporated into the state’s water quality

management plan. The Basin Plan is the water quality management plan for the Santa Ana Region along with the statewide water quality management plans. Amendments to the Basin Plan are the mechanism through which the Santa Ana Water Board takes quasi-legislative actions. The adoption of this Basin Plan amendment, which will supersede the 2004 TMDLs, is necessary to reduce loadings of nutrients to Lake Elsinore and Canyon Lake, and nutrient loading from sediments in the Lakes, and to address water quality impairments that arise therefrom.

31. Pursuant to Health and Safety Code section 57004, the Santa Ana Water Board submitted relevant technical documents that serve as the basis for the proposed amendment to an external scientific review panel appointed by the California Environmental Protection Agency's Peer Review Program, and has considered the panel's comments and recommendations in drafting the Basin Plan amendment. .

32. The Santa Ana Water Board posted a Notice of Availability and Request for Comments on the Board's website, and all related supporting documents were made available on the Board's File Transfer Protocol (FTP) website. The Santa Ana Water Board considered all comments and prepared written responses to those comments that were submitted by the required deadlines.

33. The Santa Ana Water Board has satisfied the outreach requirements set forth in Water Code section 189.7 by conducting outreach in potentially affected disadvantaged and tribal communities. The Santa Ana Water Board has distributed flyers in both English and Spanish in disadvantaged and tribal communities within the geographic area of the Santa Ana region notifying interested persons of the proposed Basin Plan amendment, regulatory background, and the opportunity to provide comments and participate in the public adoption hearing. No interested persons provided information concerning anticipated water quality impacts in disadvantaged or tribal communities resulting from adoption of the Basin Plan amendment, or any environmental justice concerns within the board's authority related to water quality impacts. Pursuant to Water Code section 13149.2, the Santa Ana Water Board reviewed readily available information and anticipates that the adoption of the Basin Plan amendment will not result in adverse water quality impacts and/or environmental justice concerns within the scope of the board's authority. The Santa Ana Water Board has therefore determined that no mitigation measures are necessary to address the impacts of the Basin Plan amendment.

34. On February 14, 2025, the Santa Ana Water Board held a public hearing to consider the Basin Plan amendment. Notice of the public hearing was given to all interested persons and published in accordance with Water Code section 13244.

35. The Basin Plan amendment must be submitted for review and approval by the State Water Board, Office of Administrative Law (OAL) and U.S. EPA. Once approved by the State Water Board, the amendment is submitted to OAL and U.S. EPA. The Basin Plan amendment will become effective upon approval by OAL and U.S. EPA. A Notice of Decision will be filed after the amendment is approved by U.S. EPA.

36. The Santa Ana Water Board prepared and distributed a Notice of Filing, the TMDL Report, environmental checklist, and the draft amendment to interested individuals and public agencies for review and comment, in accordance with state and federal regulations (Cal. Code Regs., tit. 23, §3775, 40 CFR Parts 25 and 131).

37. For the purpose of specifying compliance schedules in NPDES permits for effluent limitations necessary to implement these TMDLs, the schedule(s) specified in these TMDLs shall govern, notwithstanding other compliance schedule authorization language in the Basin Plan. The 2004 TMDLs and the related Comprehensive Nutrient Reduction Plan previously approved by the Santa Ana Water Board remain in effect, and are not stayed, until such time as these revised TMDLs are approved by the State Water Board, OAL, and U.S. EPA.

NOW, THEREFORE BE IT RESOLVED THAT:

1. The Santa Ana Water Board hereby approves and adopts the CEQA substitute environmental document, as identified above.

2. Pursuant to Water Code sections 13240 and 13242, the Santa Ana Water Board, after considering the entire record, including oral testimony at the hearing, hereby adopts the amendment to the Water Quality Control Plan for the Santa Ana River Basin, as set forth in Attachment A of this Resolution.

3. The Executive Officer is directed to forward copies of the Basin Plan amendment to the State Water Board in accordance with the requirements of Water Code section 13245.

4. The Santa Ana Water Board requests that the State Water Board approve the Basin Plan amendment, in accordance with Water Code sections 13245 and 13246 and forward it to the OAL and U.S. EPA for approval.

5. If during the approval process, Santa Ana Water Board staff, the State Water Board, or OAL determine that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Santa Ana Water Board's Executive Officer may make such changes and shall inform the Board of any such changes.

6. The Executive Officer is authorized to request a No Effect Determination from the California Department of Fish and Wildlife (CDFW) or transmit payment of the applicable fees required to CDFW, whichever is appropriate.

I, Jayne E. Joy, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Santa Ana Region, on February 14, 2025.

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Jayne E. Joy, P.E.
Executive Officer