

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2026-0032

APPROVING MODESTO MANAGEMENT ZONE IMPLEMENTATION PLAN  
&  
AMENDING WASTE DISCHARGE REQUIREMENTS TO INCORPORATE THE  
NITRATE CONTROL PROGRAM

The California Regional Water Quality Control Board, Central Valley Region (“**Central Valley Water Board**”) finds that:

**Overview of Nitrate Control Program and Management Zones**

1. In 2018, the Central Valley Water Board adopted Resolution R5-2018-0034, amending the *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin* and the *Water Quality Control Plan for the Tulare Lake Basin* (collectively, “**Basin Plans**”) to incorporate, among other things, a new Nitrate Control Program and an Exceptions Policy for Salinity, Nitrate, and/or Boron (“**Exceptions Policy**”). In 2020, the Board adopted Resolution R5-2020-0057 to incorporate revisions to the 2018 Basin Plan amendments, as proposed by the State Water Resources Control Board (“**State Water Board**”) and the U.S. Environmental Protection Agency.
2. The Nitrate Control Program is a program for the control and permitting of nitrate<sup>1</sup> discharges to groundwater in the Sacramento and San Joaquin River Basins and the Tulare Lake Basin. It applies to all groundwater basins that are designated with the municipal and domestic supply (“**MUN**”) beneficial use. The Nitrate Control Program is prioritized to first address health risks associated with drinking water that exceeds the drinking water standard (i.e., maximum contaminant level) for nitrate. (See Cal. Code Regs., tit. 22, § 64431.) To this end, the Central Valley Water Board has identified prioritized and non-prioritized groundwater basins and sub-basins based on ambient nitrate conditions (i.e., Priority 1, Priority 2, and non-prioritized basins/sub-basins) and staggered implementation of the Nitrate Control Program based on those prioritizations.
3. Dischargers of nitrate regulated by waste discharge requirements (“**WDRs**”) and/or conditional waivers of WDRs (“**Waivers**”) become subject to the Nitrate Control Program when they receive a Notice to Comply (“**NTC**”) from the Central Valley Water Board or submit an application proposing a new or expanded discharge of nitrate to any designated basin or sub-basin. These parties must choose between one of two pathways: the “default” individual approach (Path A)

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<sup>1</sup> For the purposes of the Nitrate Control Program and this Order, the term “nitrate” includes nitrate and other forms of nitrogen speciation (e.g. total inorganic nitrogen (“**TIN**”) and total Kjeldahl nitrogen (“**TKN**”)) used to address nitrate in groundwater.

or the optional Management Zone approach (Path B), and then individually or collectively (i.e., via a Management Zone) assess the nitrate levels in groundwater receiving their discharges, determine whether the groundwater exceeds drinking water standards, and, if so, propose and implement an Early Action Plan (“**EAP**”) to address the immediate needs of those drinking the impacted groundwater from a public water supply or domestic well.

4. Management Zones are discrete and generally hydrologically contiguous areas for which permitted dischargers participating in each Management Zone (“**members**”) collectively work to meet the goals of the Nitrate Control Program and for which regulatory compliance is evaluated based on the dischargers’ efforts and collective impacts on a defined portion of the aquifer. Recognized third-party groups may act on behalf of Management Zone members to meet the requirements of the Nitrate Control Program. However, members are ultimately responsible for compliance with their own WDRs or Waivers and associated Nitrate Control Program requirements.
5. Management Zones for Priority 1 basins were proposed to and approved by the Central Valley Water Board. Members work collaboratively with other participants to develop and implement EAPs and Management Zone Implementation Plans (“**MZIPs**”). MZIPs are the Management Zones’ comprehensive plans for addressing emergency, interim, and long-term drinking water needs within their respective Management Zone areas; evaluating existing groundwater quality and discharge practices to identify strategies for controlling and managing discharges of nitrate; reducing nitrate loading to groundwater; and ultimately restoring aquifers to the extent reasonable, feasible, and practicable. The Central Valley Water Board must approve each MZIP in a public hearing.
6. The Exceptions Policy provides that the Board may grant persons regulated by WDRs and/or Waivers that are not also National Pollutant Discharge Elimination System (“**NPDES**”) permits an exception from permit requirements that implement the water quality objective (“**WQO**”) for nitrate (i.e., “**nitrate exceptions**”). Nitrate exceptions are intended to facilitate long-term attainment of the WQO or to provide the time needed to revise an inappropriate WQO or beneficial use designation. Under the Exceptions Policy, discharges of nitrate must cease causing or contributing to exceedances of the WQO for nitrate in receiving waters within a term that is as short as practicable for each participating discharger or category of participating dischargers and, in no case, longer than 35 years. The term of an exception shall generally not exceed 10 years; however, the Central Valley Water Board maintains the discretion to adopt an exception for up to 35 years if the applicant(s) can demonstrate that a longer-term exception is necessary to further the management goals of the Nitrate Control Program.
7. Nitrate exceptions may only be granted to dischargers that are fully participating in the Nitrate Control Program. The Exceptions Policy establishes application requirements for obtaining a nitrate exception, including but not limited to

demonstration of eligibility, identification of mitigation responsibilities, monitoring and reporting obligations, and expectations relevant to implementing the Nitrate Control Program management goals. Applications for nitrate exceptions must include, among other things:

- a. Explanation of why the discharger is unable to ensure consistent compliance with existing requirements implementing the WQO for nitrate and how the proposed exception facilitates the larger long-term strategy designed to attain the WQO while, in the interim, allocating available resources to address more urgent water quality priorities such as provision of safe drinking water, where applicable
  - b. Where exceptions are sought in order to provide time to develop and approve a more appropriate WQO or beneficial use designation, there must be a well-defined work plan (including a schedule of milestones) and a commitment by dischargers to provide the resources needed to complete the proposed process.
  - c. A proposed Alternate Compliance Project (“**ACP**”) designed to provide the same or higher level of intended protection to water users that may be adversely affected by the discharge(s) for which the exception is requested. A fundamental element of any ACP is that it must ensure that groundwater users impacted by discharges of nitrates have access to drinking water that meets state and federal drinking water standards and must provide specific milestones and timelines for meeting the goals of the Nitrate Control Program. MZIPs are equivalent to ACPs.
8. When the Central Valley Water Board approves a Management Zone’s MZIP, it also approves nitrate exceptions for dischargers that are members of that Management Zone. Exceptions granted to each discharger or category of dischargers participating in a Management Zone may vary in length as appropriate to ensure that the exceptions are as short as practicable. When the Central Valley Water Board grants an exception, it must also set interim performance-based requirements. Exceptions are granted, and requirements to meet associated interim and final milestones are imposed, via incorporation into the WDRs or Waivers regulating each discharger participating in the Management Zone. Thus, dischargers participating in Management Zones, not the Management Zones themselves, bear the ultimate legal responsibility to ensure that their approved MZIPs are implemented.
9. If a member fails to meet Nitrate Control Program milestones included in its WDRs or Waiver, the Central Valley Water Board may take enforcement actions including, but not limited to, issuance of an order(s) requiring prompt restoration of compliance or remedial action (see Wat. Code, §§ 13301, 13304), imposition of administrative civil liability (i.e., monetary penalties) for violations of the WDRs or Waiver (see Wat. Code, § 13350), and/or rescission or modification of an

exception after notice and hearing. Additionally, as further outlined below, the Management Zone will take steps to notify its members when they are out of compliance with applicable requirements, coordinate with those members to restore compliance, and, if necessary, remove non-compliant members from the Management Zone.

In evaluating proposed enforcement actions relating to the failure of a Management Zone, or members participating therein, to meet requirements imposed to implement an approved MZIP, the Central Valley Water Board will, in a public hearing, take into consideration relevant evidence that the alleged noncompliance resulted from circumstances outside the Management Zone and/or dischargers' control (e.g., delays caused by parties that are not participating in the Management Zone; national or regional emergency; etc.) despite the Management Zone and/or dischargers' reasonable efforts to avoid such circumstances. If a discharger loses its exception because of a Central Valley Water Board action, the discharger will be subject to Nitrate Control Program Path A – Individual Permitting Approach.

10. The Exceptions Policy requires that dischargers with authorized exceptions must prepare and submit, every five years, status reports that summarize their compliance with the terms and conditions of the exception ("**Five-Year Reports**"). Additionally, the Exceptions Policy requires that dischargers with authorized exception terms greater than ten years must prepare and submit, every ten years, reports that reassesses Best Management Practices ("**BMPs**") and survey available treatment technologies to determine if new feasible, practicable, and reasonable compliance options have become available ("**Ten-Year Reports**"). These status reports may be presented individually, on a discharger-by-discharger basis, or collectively, on behalf of some or all dischargers participating in a particular Management Zone. Five-Year Reports that are due at the same time as Ten-Year Reports may be presented separately or incorporated into the Ten-Year Reports.
11. The Central Valley Water Board will conduct periodic reviews of exceptions in public hearings ("**Exception Reviews**"). As part of these Exception Reviews, the Board will consider the length of the exception's terms and revise the length of terms if appropriate. In determining if the length of the term is appropriate, the Board will evaluate whether the term is still as short as practicable for each discharger or category of dischargers. In determining the appropriateness of exception terms and corresponding requirements for the Management Zone and its members, the Board will consider the Five- and Ten-Year Reports, as applicable, in addition to other relevant evidence and public comments.

### **Modesto Management Zone**

12. The Central Valley Water Board issued Notices to Comply to dischargers in Priority 1 basins on 29 May 2020. The Modesto Management Zone, on behalf all

dischargers participating therein (“**participating dischargers**”), submitted a Preliminary Management Zone Proposal (“**PMZP**”) and EAP on 8 March 2021. The Central Valley Water Board conditionally approved the EAP on 7 May 2021, and the Modesto Management Zone is implementing the conditionally approved EAP. The Central Valley Water Board provided comments on the PMZP to the Management Zone on 28 February 2022. The Modesto Management Zone submitted a Final Management Zone Proposal (“**FMZP**”) on 29 August 2022, 180 days after the Central Valley Water Board provided comments on the PMZP. The Central Valley Water Board concurred with the FMZP for the Modesto Management Zone on 23 February 2023. The Modesto Management Zone is administered by a third-party, non-profit organization known as the Valley Water Collaborative. The Valley Water Collaborative’s purpose is to maintain and improve the quality of life within the subbasins covered by the Valley Water Collaborative by implementing programs that provide access to safe drinking water for residents and by engaging in activities with the goal of enhancing the quality of groundwater drinking water supplies for residents in the region. Participating dischargers voluntarily support the Valley Water Collaborative’s efforts as the administrator for the Modesto Management Zone.

13. The Modesto Management Zone submitted an MZIP (“**Modesto MZIP**”) on 5 September 2023, six months after the FMZP was accepted by the Central Valley Water Board. In a letter dated 20 November 2023, the Central Valley Water Board confirmed that the Modesto MZIP is complete. The Central Valley Water Board held a public meeting to hear comments regarding the Priority 1 MZIPs on 19 April 2024.

#### **Management Zone Application for Exception for Nitrate**

14. The Modesto MZIP constitutes an application, on behalf of all participating dischargers, for nitrate exceptions pursuant to the Exceptions Policy. The Modesto MZIP included the following elements which satisfy the requirements stated in the Exceptions Policy’s Exception Application Requirements Specific to Nitrate:
  - a. An explanation/justification as to why the exception is necessary, and why the discharger is unable to ensure consistent compliance with existing effluent and/or groundwater/surface water limitations associated with nitrate at this time;
  - b. A description of the ACPs and EAP that the Modesto Management Zone will implement, consistent with the Nitrate Permitting Strategy of the Basin Plans;
  - c. Copies of documents prepared and certified by another state or local agency pursuant to Public Resources Code section 21080 et seq. or such documents as are necessary for the Central Valley Water Board to make

its decision in compliance with Public Resources Code section 21080 et seq.;

- d. A work plan to provide or assist in providing an interim and permanent water supply for any person living in the area adversely affected by the discharge under the requested nitrate exception. The Emergency and Interim Drinking Water Program and Long-term Drinking Water Solutions Program in the MZIP included a schedule of milestones and a description of financial commitments to assure completion of the interim and permanent water supply; and
  - e. A detailed plan of how the proposed implementation measures will further the long-term management goals of the Nitrate Control Program.
15. This Order approves the Modesto MZIP and grants nitrate exceptions that range from 10 to 35 years to all participating dischargers (see Table 1). Specifically, this Order authorizes exceptions of 10 years for low threat or low population bovine operations and 35 years for full coverage bovine operations;<sup>2</sup> 15 years for low threat poultry operations<sup>3</sup> and 25 years for full coverage poultry facilities;<sup>4</sup> 35 years for dairies and irrigated lands operations, and 10-35 years for Non-15 dischargers. These initial exception terms are based on the timelines proposed in the Modesto MZIP and its appendices, which provides justification for why each group of dischargers' respective exception terms are as short as practicable.

This evaluation of practicability is based on evaluation of several factors, including but not limited to the need to provide clean, safe, reliable, and affordable drinking water supplies to residents in an expeditious and well-planned and -implemented manner; the Management Zone's need to efficiently prioritize allocation of limited funds and efforts to maximize the benefits of drinking water solutions and nitrate reduction strategies; and recognition of time and resources needed to conduct wide-scale outreach to Management Zone residents and participating dischargers, continuously collect and analyze data concerning drinking water supplies, nitrate concentrations in groundwater, and participating dischargers' nitrate discharges and management practices, and to plan, implement, and evaluate the success of the numerous concurrent efforts proposed in the MZIP and required by this Order.

The determination also takes into account the fact that the Board must review the appropriateness of exception terms at least once every five years. The Board

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<sup>2</sup> See Order R5-2017-0058, WDRs General Order for Confined Bovine Feeding Operations.

<sup>3</sup> See Order R5-2016-0087-01, WDRs General Order for Poultry Operations.

<sup>4</sup> *Ibid.*

anticipates that, as the MZIP is implemented, the information gained and lessons learned from those activities will provide increased clarity on appropriateness of dischargers' exception terms. If the Board determines, based on new information, that an exception term is no longer as short as practicable, then the Board will act to revise that term accordingly.

16. As the MZIP is implemented, the Central Valley Water Board will continue to periodically review the appropriateness of the nitrate exceptions and their terms to ensure that they remain as short as practicable. This Order includes feedback mechanisms for ensuring that progress is made towards the Management Zone's existing commitments and development of future phases. In particular, the Management Zone and its participants are required to submit periodic progress reports and participate in recurring five-year "Exception Status" reviews in public hearings before the Board. These recurring reports and hearings will support the Board's continuing review. The Board retains the authority to modify or rescind exceptions at any time, after notice and hearing, if it determines that any exception term is no longer appropriate based on new information or changed circumstances. Additionally, as the Management Zone identifies and proposes implementation of practicable nitrate control and reduction strategies, the Central Valley Water Board anticipates that it will revise participating dischargers' WDRs or waivers of WDRs to incorporate proposed facility or operational changes. In doing so, the Board will consider whether the existing exception term is still necessary or appropriate to support those dischargers' efforts towards long-term compliance. Ultimately, the Central Valley Water Board anticipates that it will reduce exception terms for certain dischargers or groups of dischargers as appropriate as nitrate control strategies are implemented and as scientific and technological advancements occur. The Board expects that the information gathered and practices or technologies developed and implemented over the next ten years will support reevaluation and possible refinement of exception terms.

17. This Order incorporates certain actions proposed in the Modesto MZIP as enforceable requirements (i.e., interim milestones) for the Management Zone and participating dischargers. The Management Zone's completion of these milestones will inform refinement or development of subsequent milestones. For example, if near-term data collection and evaluation efforts indicate that new or different milestones or timelines are appropriate, the Central Valley Water Board may revise this Order and associated WDRs, Waivers, and/or monitoring and reporting program orders ("**MRPs**") accordingly. Additionally, as part of its periodic review of exceptions, the Board will evaluate the Modesto Management Zone and participating dischargers' achievement or reasonable progress towards achievement, of interim milestones. These milestones are categorized as follows:

- Nitrate Reduction Programs ("**NRPs**")
- Outreach
- Emergency and Interim Drinking Water Program

- Long-Term Drinking Water Program
- Long-Term Managed Aquifer Restoration
- Surveillance and Monitoring Program (“**SAMP**”)
- Reporting

Each category of interim milestones is described in the Conditions of Maintaining the Exception section below.

### **Conditions of Maintaining the Exception**

18. The Modesto Management Zone will facilitate timely communication and coordination with participating dischargers by providing reminders (via email) regarding MZIP implementation activities that require their specific input and support, including, but not necessarily limited to, data collection and submittal, status of compliance with interim milestones to support Management Zone reporting requirements, and submittal of Nitrate Reduction Workplans to the Central Valley Water Board.
19. If a participating discharger or their representative(s) does not provide funding to the Management Zone (per the annual cost share established by the Management Zone), does not participate in the implementation of the requirements of the NRP in a timely manner, or does not provide requested data/information necessary to support implementation of the Modesto MZIP, the Management Zone will implement the following process:
  - a. Within 90 days after a submittal deadline has been missed, the Management Zone will notify the discharger in writing of the missing submittal(s) and what is necessary to resolve the issue and the consequences for failure to do so (e.g., removal from the Management Zone and notification to the Central Valley Water Board of their removal).
  - b. If the discharger does not resolve the issue within 30 days after the written request was sent (or longer if agreed to in writing by the Management Zone), the Management Zone will remove the participant from the Management Zone and notify the Central Valley Water Board in writing of the removal. The notification will include documentation of the issues that have led to the removal of the Participant from the Management Zone.
20. **Third-Party Implementation of MZIP Requirements.** As described in the Modesto MZIP, some elements of MZIP implementation will be carried out by third parties (i.e., industry representative groups, vendors, contractors, etc.). It is the responsibility of the Management Zone, on behalf of the participating dischargers, to ensure that any such third party implements the Program in accordance with this Order, the approved MZIP, and the Nitrate Control Program for the entire time that the MZIP is being implemented. With respect to the interim and long-term drinking water solutions programs, some third parties may have their own terms and agreements that must be met before they will provide

services at a residence. If an agreement between a third-party implementing the MZIP and a resident and/or landowner is required to receive services, residents are responsible for signing the proposed agreements and complying with the terms and conditions of any signed agreements. The Management Zone will assist residents, as needed, with any questions or issues that arise during establishment of the agreement with the third party.

### **Nitrate Reduction Program ("NRP")**

21. The Modesto MZIP proposes an NRP that includes objectives to coordinate data collection from participating dischargers to support identification and implementation of short- and long-term nitrate management measures and strategies for achieving the ultimate goals of the Nitrate Control Program. The Modesto Management Zone is responsible for overall completion of the NRP described in the MZIP. Participating dischargers are responsible for certain NRP milestones, as categorized on a sector-by-sector basis in the Modesto MZIP:

- NRP-1 – Irrigated Agriculture
- NRP-2a – Dairies
- NRP-2b – Bovine Facilities
- NRP-3 – Poultry Facilities
- NRP-4 – Non-15 Program Dischargers
- NRP-5 – Septic systems

This Order includes MRPs and WDR revisions that incorporate applicable NRP objectives as enforceable milestones for each participating discharger. (Atts. A-E). The data collected through these sector-based NRPs will be used, in part, to support development of the Management Zone-wide Nitrate Reduction Compliance Assessment described below.

22. The Management Zone will implement a Nitrate Reduction Compliance Assessment Program, through which it will identify and implement nitrate load reduction targets on a township basis for all participating dischargers. These targets will be used by the Management Zone to progressively reduce nitrate loading across the Management Zone area and identify areas or sectors where additional efforts are needed. Rather than incorporate the targets into WDRs and Waivers as enforceable limits, other enforceable permit provisions will ensure nitrate load reductions occur within individual permits. The Central Valley Water Board has prescribed milestones (below and in the Reporting Requirements section of this Order) for the Management Zone's implementation of this Program and will consider the results of the Program in each of its reviews of the exception terms. In implementing the Nitrate Reduction Compliance Assessment Program, the Management Zone will:
- a. **Within 6 months**, establish minimum data collection needs for each participating discharger or category of participating dischargers.

- b. **Within 1 year**, verify participating dischargers are collecting the required data (to the extent practicable).
- c. **Within 4 years**, submit proposed updates to existing ILRP Groundwater Protection Value (“**GWPV**”)<sup>5</sup> and Groundwater Protection Target (“**GWPT**”)<sup>6</sup> methodologies for Central Valley Water Board approval. This includes developing methodologies to estimate necessary load reduction needed collectively by sector or individual facility to meet township-based GWPTs, and monitor/report progress towards meeting required load reductions.
  - i. **Within 1 year after approval of updated GWPV and GWPT methodologies**, update existing modeling tools to support use of updated GWPV/GWPT methodologies.
  - ii. **Within 2 years after approval of updated GWPV and GWPT methodologies**, submit sector-specific and overall GWPVs and GWPTs, including a baseline compliance assessment.
  - iii. **Starting with the first Five-Year Report** following submittal of sector-specific and overall GWPVs and GWPTs, begin providing compliance assessments in the Management Zone Five-Year Report.
- d. **Within 8 years**, determine load reductions required for participating dischargers/sectors within each township and submit a Management Zone Nitrogen Load Reduction Report.

23. For **NRP-2a**, the Management Zone will:

- a. **Within 3 years**, ensure that CVDRMP, on behalf of the Management Zone, has established an operational **Data Management System (“DMS”)** available for use by participating dairies, as proposed in MZIP Appendix NRP-2a, section 2.4.2.2.

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<sup>5</sup> GWPVs are township-scale (i.e., 36 square miles) nitrate loading values that are intended to provide a representative nitrogen loading rate (pounds/acres/year [lbs/ac/yr]) based on climate, soil conditions, surface runoff, nitrogen cycle, plant growth, and management practices specific to each identified township area.

<sup>6</sup> GWPTs are nitrate loading rates (lbs/ac) that all participating dischargers in a township must collectively achieve at the bottom of the root zone to no longer cause or contribute to an exceedance of the nitrate WQO in the groundwater in the Upper Zone underlying the township.

24. For **NRP-2b**, the Management Zone will:

a. **Low Threat / Low Population Operations**

- i. **Within 4 years**, establish a Bovine Quality Assurance Program (“**BQAP**”) that includes, at minimum, the key elements described in NRP-2b, Table 3, and obtain regulatory approval of the BQAP (as needed).
- ii. **Within 10 years**, achieve BQAP certification of 100 percent of low threat and low population bovine operations.

25. For **NRP-3**, the Management Zone will:

- a. **Within 4 years**, establish a Poultry Quality Assurance Program (“**PQAP**”) that includes, at minimum, the key elements described in NRP-3, Table 6, and obtain regulatory approval of the PQAP (as needed).
  - i. **Within 10 years**, achieve PQAP certification of 50 percent of Low Threat Poultry Operations.<sup>7</sup>
  - ii. **Within 15 years**, achieve PQAP certification of 100 percent of Low Threat Poultry Operations.

26. For **NRP-4**, the Management Zone will:

- a. **Within 6 years**, compile data from Non-15 dischargers’ Nitrate Delineation Reports in order to delineate Group 1, 2, and 3 dischargers’ area(s) of contribution.

27. With respect to **NRP-5**, discharges of nitrate from septic systems are regulated pursuant to the State Water Board’s *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (18 April 2023) (“**OWTS Policy**”), which constitutes a general conditional waiver of WDRs for OWTS discharges statewide. OWTS dischargers in the Central Valley region have not received NTCs requiring compliance with the Nitrate Control Program. Accordingly, the Modesto Management Zone does not have responsibility or authority for approval, installation, or management of septic systems within its boundaries. Nevertheless, in the Modesto MZIP, the Modesto Management Zone proposed to make reasonable efforts to assist entities (i.e., local governments) that have obtained delegated authority to implement the

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<sup>7</sup> “Low Threat Poultry Operations refers to facilities/dischargers that are regulated under WDRs Order R5-2016-0087-01 (or any successor order thereto) as “Low Threat Operations.”

OWTS Policy via State Water Board-approved Local Area Management Programs (“**LAMPs**”). To this end, the Modesto Management Zone shall implement (as appropriate) and report on, as part of its Five-Year Reports, efforts to achieve the following milestones:

- a. Periodic coordination with counties and local agencies to align OWTS Policy implementation with the wider efforts and goals of the Modesto Management Zone (data requests; annual OWTS Policy reports; LAMPs’ Water Quality Assessment Reports).
- b. **Within 3 years**, request and compile GIS coverage of sewer system infrastructure. Mapping information collected under the Sanitary Sewer Systems General Order may be used to satisfy this requirement.
- c. **Within 5 years**, complete data collection and analyses required to improve spatial understanding of septic systems and update the Modesto MZIP’s preliminary septic system nitrogen load estimate.
- d. Work with the entities within Modesto Management Zone boundaries that are responsible for the implementation of the OWTS Policy and managing sewer systems to support efforts to reduce groundwater impacts from septic systems.
- e. Work with project proponents and communities within Modesto Management Zone boundaries to identify and pursue funding options necessary to implement projects related to reducing reliance on septic systems.

### **Outreach**

28. The Management Zone will engage in various forms of outreach throughout the duration of time that its participating dischargers hold nitrate exceptions. Outreach and coordination are planned to occur between the Management Zone and numerous entities, including, but not limited to: the public, environmental justice community representatives; counties/LAMPs; State Water Board Division of Drinking Water (“**DDW**”) representatives; community leaders and organizations; technical service providers; and Groundwater Sustainability Agency (“**GSA**”) representatives.

General outreach will be conducted to inform the public and other stakeholders of health threats associated with nitrate in groundwater and the Nitrate Control Program, Modesto Management Zone, and Modesto MZIP, as well as to engage

**Management Zone residents**<sup>8</sup> in MZIP implementation (e.g., notifications of available well testing, water replacement, public participation, etc.). In conducting outreach related to implementation of the Modesto MZIP and this Order, it is the Central Valley Water Board's expectation that the Management Zone will do the following (as applicable):

- Engage with a diverse group of community members and non-dischargers representing different social, cultural, and economic elements of the population in the Management Zone.
- Consider community feedback and input from key community leaders and/or organizations in deciding which formats and mechanisms to present information materials.
- Make information about the Management Zone and MZIP implementation progress accessible by developing and distributing informational materials in multiple languages, as appropriate, based on primary languages spoken in the local communities and designed to be understood by low-literacy populations. Information may be distributed in a variety of formats, including but not limited to flyers, public meeting handouts, information packets mailed out to residents, brochures, the Management Zone's website, and social media.
- Make participation easy and accessible, providing a variety of methods and venues, both in-person and online, for the public to access information and provide input and feedback.
- Coordinate with other Management Zones where appropriate and supportive of cost-effective strategy.

29. **Community Outreach Meetings.** The Management Zone will conduct periodic community outreach meetings, open to all interested persons, to provide information on Modesto MZIP implementation and a forum for discussions regarding, among other things, the need for and/or location of water fill stations or possible improvements or modifications to other existing, planned, or proposed MZIP elements. These meetings will also serve as one of several methods used to communicate available opportunities (as applicable), such as opportunities for residential well testing, emergency and interim drinking water solutions, permanent drinking water solutions, or participating in MZIP implementation activities. **In the first year after this Order is adopted, the**

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<sup>8</sup> The term "Management Zone residents" refers to all individuals that reside within the boundaries of the Management Zone or its area(s) of contribution.

Management Zone will hold four quarterly meetings. In subsequent years, meetings will occur based on perceived need and community feedback.

### **Emergency and Interim Drinking Water Program**

30. The Emergency and Interim Drinking Water Program, which is already underway as part of the Management Zone's EAP, is made up of three phases to be conducted on a rolling basis: (1) Outreach to Identify Eligible Residents; (2) Residential Domestic Well Testing; and (3) Interim Drinking Water Solutions (i.e., bottled water delivery, individual home-based treatment systems, and centralized water fill stations). The following findings describe these phases and then quantifiable milestones that the Management Zone must meet in implementing the Program. This Emergency and Interim Drinking Water Program will continue until all affected residents have been provided with long-term drinking water solutions, have declined to participate<sup>9</sup> in the long-term drinking water programs established by the Management Zone, have declined to participate in the Emergency and Interim Drinking Water Program after receiving multiple notices of the program's availability, or until all participating dischargers' nitrate exceptions have ended, whichever occurs sooner.

31. **Outreach to Eligible Residents.** In implementing the Emergency and Interim Drinking Water Program, the Modesto Management Zone will communicate the availability of the Program to Management Zone residents to raise awareness of the Program. "**Eligible residents**" are based on the following criteria:

- They reside within the same dwelling within the Management Zone for at least 60 consecutive days of the year.
- Their residence receives drinking water that contains nitrate as N in concentrations exceeding 10 mg/L, either from a domestic well(s) or a state- or county-regulated Public Water System ("**PWS**").
- If a third-party vendor requires the resident to sign an agreement to receive bottled water or an individual home-based treatment system, the resident

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<sup>9</sup> An affected resident will be considered to have "declined to participate in the long-term drinking water programs" if they have explicitly rejected or failed to respond to an offer of a long-term drinking water solution. An affected resident will be considered to have "declined to participate in the Emergency and Interim Drinking Water Program" if they have explicitly rejected or failed to respond to multiple offers for Emergency and Interim Drinking Water mailed directly to USPS addresses after adoption of this Order.

must be willing to sign the agreement and meet the third-party provider agreement's terms and conditions.

If a resident is ineligible to participate in this program (e.g., their residence is not located within the Management Zone or its area(s) of contribution), the Management Zone will notify them of the ineligibility and ensure they are aware of alternative options to obtain safe drinking water (e.g., through the use of a water fill station, if available in the area, or other safe drinking water programs).

The Interim Drinking Water Solution available to Eligible Residents may vary depending on their particular situation and if they receive drinking water from a domestic well or state- or county-regulated PWS. Interim drinking water solutions for Eligible Residents are described in Findings 36 through 39, below.

32. **Management Zone Residents Served by a Public Water System.** The Management Zone is not responsible for sampling the quality of drinking water served by PWSs because these systems are already sampled pursuant to state drinking water laws. The Management Zone is responsible for obtaining data from PWSs that serve Management Zone residents to determine whether those PWSs are compliant with state drinking water standards for nitrate.
33. **Residential Domestic Well Survey. Within 1 year,** the Management Zone will complete a comprehensive survey to identify all domestic wells within its boundaries and areas of contribution based on publicly available data and information. The results of this survey shall be used to evaluate compliance with the Long-Term Drinking Water Program Individualized Solutions milestones in Finding 42(b)(i).
34. **Residential Domestic Well Testing.** To determine Management Zone residents' eligibility for provision of drinking water via the Emergency and Interim Drinking Water Program and identify the need for subsequent actions, the Management Zone will conduct well tests at no cost to residents, as follows:
  - a. **Within 5 years,** the Management Zone will have (1) offered to test all identified domestic wells for nitrate as N; and, (2) will have tested domestic wells for Eligible Residents that have requested to have their domestic well tested. The Management Zone is not responsible for testing wells where a resident or landowner (as applicable) has refused testing, either explicitly or by failing to respond to outreach attempts.
  - b. **Well Testing Upon Request by Residents Within Management Zone or Area of Contribution.** Upon request, the Modesto Management Zone will conduct well tests, at no cost to residents, for any residents that live within the Management Zone boundary, are not currently receiving drinking water from a nitrate-compliant PWS, and receive their drinking

water from a domestic well.<sup>10</sup> In addition, well testing will be provided to residents that live outside the Management Zone boundary but are located immediately downgradient from Management Zone dischargers within their area of contribution.

The Management Zone will only test the well that provides water to the residence. If the resident does not know the source of water to the household (e.g., whether the household receives nitrate-compliant water from a regulated PWS), Management Zone representatives will work with them to evaluate this question. Where a well has been recently tested and a well test result from an ELAP certified laboratory is available, the Management Zone may rely on the certified result to determine if the resident is eligible for an alternative source of drinking water without testing the well.

**i. Requests from Outside of Management Zone Coverage Areas.**

If a person requesting a well test is not inside the Management Zone boundary or contribution areas, the Management Zone will advise the resident on how to proceed. If the residence is in an adjacent Management Zone, the resident will be referred to a representative for that Management Zone.

**ii. Requests by Non-Landowners.** If the resident requesting a well test is not the owner of the property where the well test is requested, the Management Zone will request the resident's oral or

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<sup>10</sup> The Modesto Management Zone is encouraged to coordinate its nitrate well testing program with other well testing programs in the area, to the extent practical, to provide opportunity for testing domestic wells for other potential contaminants. Currently, the Modesto Management Zone has entered into a co-funding agreement with the State Water Board for sampling co-contaminants and providing replacement water through Safe and Affordable Funding for Equity and Resilience ("SAFER") Program. Continued implementation of this co-funding agreement is encouraged to the extent that funding is available, and the Modesto Management Zone finds that continuation of the program provides benefit to the Management Zone. The Management Zone is also encouraged to coordinate with other local and state agencies where available and appropriate.

The Management Zone's agreement with SAFER will continue, pursuant to the terms of the agreement between the Management Zone and State Water Board. The Management Zone intends to continue efforts with the State Water Board to amend the co-funding grant agreement prior to its ending date or when funds are exhausted, as determined appropriate.

written permission to contact the landowner. If the resident grants the Management Zone permission to contact the landowner, the Management Zone will seek to obtain acknowledgement from the landowner that the well will be sampled. If the Management Zone is unable to obtain acknowledgment from the landowner or the landowner is not responsive to requests seeking acknowledgment, the Management Zone will request the resident's oral or written permission to work with the Central Valley Water Board to address the issue.

In order to increase responsiveness from landowners and ensure eligible residents receive testing, the Management Zone will notify landowners as part of the application process of California Assembly Bill 2454 (Reg. Sess. 2023-2024), which amended the Health and Safety Code to require owners of domestic wells that serve rental properties to participate in available well testing programs. (See Health and Saf. Code, §§ 116681, 116688.)

- c. **Well Testing Results.** Residents and landowners will receive copies of well test result, in writing, regardless of the nitrate concentration. Depending on the concentration of nitrate as N that is detected, the Management Zone will take the following actions for the duration of time that participating dischargers hold nitrate exceptions:
  - i. **Above 10 mg/L.** The Management Zone will notify the resident(s) and landowner(s) (if appropriate) by email or phone within 48 business hours of the Management Zone receiving the laboratory results and will immediately begin coordinating with the resident(s) (and landowner(s) if needed) to implement an interim drinking water option.
  - ii. **At or Between 7.5-10 mg/L.** The Management Zone will provide recurring annual opportunities for retesting, at no cost to the resident, until the nitrate concentration is <7.5 mg/L Nitrate as N. One year after the initial well test or last offer to provide a retest, the Management Zone will make a reasonable attempt to communicate with the resident or landowner, via a letter by mail, sms/text message, email, and/or phone, to provide an opportunity for a follow-up well test. If the resident or landowner does not respond within 60 days, the Management Zone will again make a reasonable attempt to communicate with the resident or landowner to provide an opportunity for a follow-up well test. If there is still no response, then the Management Zone may end the outreach effort for that year and will document its efforts to contact the resident or landowner. If a resident or landowner does not respond to two consecutive annual retesting offers, then the Management Zone

may stop outreach to that residence for purposes of this Emergency and Interim Drinking Water Program.

iii. **Below 7.5 mg/L.** The Management Zone will provide recurring once-per-five years opportunities for retesting at no cost to the resident. The Management Zone will provide recurring once-per-five year opportunities for retesting at no cost to the resident if requested by the resident or other occupant of the same dwelling five years or more after previous well test.

d. **Resident or Landowner Refusal of Retest Offer.** If a resident or landowner does not want their well retested, the Management Zone is under no obligation to further implement direct follow-up actions with the resident in the future under this Emergency and Interim Drinking Water Program.

35. **Coordination with Other Well Testing Programs.** The Management Zone will coordinate its Residential Well Testing Program with the ILRP Drinking Water Well Monitoring Program, CVDRMP, and other 3rd party representative groups (to the extent that they conduct well testing on behalf of their members). The Management Zone may use existing well testing data collected by these groups to satisfy its well testing obligations, provided that such data meets applicable standards. Dischargers subject to well testing requirements pursuant to their WDRs or Waivers may not satisfy their individual permit requirements using well testing data generated by the Management Zone.

#### Interim Drinking Water Solutions

36. Eligible residents will be able to receive interim replacement drinking water via bottled water delivery, individual home-based treatment systems, centralized water fill stations, or other solutions implemented by the Management Zone. Upon determination of eligibility (as described above), the Management Zone will immediately begin working with residents to coordinate provision of replacement drinking water. The Central Valley Water Board is not requiring implementation of any particular interim drinking water solution in any particular case but will review project implementation and public feedback when considering the appropriateness of solutions implemented over time. In determining the appropriateness of the solution, the Central Valley Water Board will consider if the resident is served by a PWS, the size of the PWS, median household income for those served by a PWS, reasons for the PWS' non-compliance, presence of other non-nitrate contaminants, and other factors as appropriate. However, as described below, the Central Valley Water Board has certain minimum expectations with respect to the potential interim solutions proposed in the MZIP.

37. **Bottled Water Delivery.** For residents receiving bottled water delivery, the Modesto Management Zone will, at minimum, provide for hand-pumps and

pickup of empty bottles at no cost to residents. Residents are responsible, to a reasonable extent, for working with the Management Zone or its agents (as applicable) to schedule delivery of bottled water and pickup of empty bottles. However, the Management Zone will provide scheduling support where necessary.

**38. Individual Home-Based Treatment Systems.** In some cases, due to site-specific circumstances, an individual home-based treatment system may not be viable due to, among other things: inadequate incoming pressure to the treatment system; nitrate levels in excess of 20 mg/L (Nitrate as N) that limit the effectiveness of the treatment system to treat the water to a safe level; or presence of other contaminants besides nitrate that limit the effectiveness of and/or are not treatable through the treatment system. In such cases, the Management Zone will coordinate with the DDW and the vendor(s), as needed, to assist with Individual home-based treatment system technical issues. If the technical problems are unresolvable, the residence may alternatively participate in the bottled water delivery program.

- a. Establishing and Maintaining Individual Home-Based Treatment Systems. Where an individual home-based treatment system is a feasible interim drinking water option, the Management Zone will work with the resident to install the treatment system and develop a service plan (detailed below). If the resident is not the landowner, the process to install and maintain the treatment system will require written approval of the landowner. In the event the landowner does not provide consent to install and maintain the individual home-based treatment system, the Management Zone will provide drinking water through an alternative source, such as the bottled water delivery option. Once the Management Zone receives landowner approval and necessary signed agreements, the resident will schedule with the Management Zone for installation of an individual home-based treatment system at the residence. The service plan will include: (a) installation of the treatment system; (b) initial and follow-up water testing to ensure the system is removing nitrate and other co-contaminants as applicable down to safe levels as expected; and (c) periodic maintenance of the treatment system (as required by the manufacturer), which may require that the vendor enter the home. If the individual home-based treatment system is later found to be the appropriate long-term solution pursuant to Finding 42(b)(i), the provisions of Finding 42(b)(i) shall apply. If the resident does not allow required maintenance and monitoring of the treatment system to occur, then the Management Zone may modify or remove the approved interim drinking water option but must document the reasoning for doing so.
- b. Monitoring of System Effectiveness. Individual home-based treatment systems require periodic monitoring to verify that they are effectively treating nitrate and other possible co-contaminants as intended. If a

treatment system is not effectively treating these constituents, the Management Zone will determine whether an alternative treatment system could be installed or the resident will be switched to bottled water delivery immediately and the individual home-based treatment system will be removed from the residence at no cost to the resident.

- c. Resident Responsibilities. Residents that will have an individual home-based treatment system installed are responsible for working with the Management Zone's agent to schedule installation and abide by any required maintenance of the individual home-based treatment system. The cost of maintenance will not be the responsibility of the resident while the in-home system is considered an interim solution. However, once a long-term, permanent source of safe drinking water becomes available in the area that serves the residence, even if that long-term solution involves keeping the interim in-home solution in place, the Management Zone may no longer need to support the individual home-based treatment system maintenance agreement (depending on the solution). Some examples of long-term, permanent sources of safe drinking water may include, but not be limited to, consolidation with a nearby compliant PWS or connection to a water well meeting nitrate drinking water standards. If a resident chooses to continue the use of the individual home-based treatment system, even where permanent drinking water solutions have been made available, the resident will be responsible for paying for maintenance services.

**39. Centralized Water Delivery Program - Water Fill Station(s).** The goal of the Centralized Water Delivery Program is to provide an additional alternative source for safe drinking water to the local community that may be accessed by any resident. This option requires installation of water fill stations to meet the drinking water needs of as many residents as possible. A water fill station is an independent water-dispensing facility connected directly to a PWS that meets drinking water standards and is constructed and operated consistent with any applicable local, county, state, and federal laws, regulations, and other applicable requirements, such as the California Safe Drinking Water Act, as defined in the Health and Safety Code, and Titles 17 and 22 of the California Code of Regulations. Any resident will be able to bring their water bottles to fill them as often as desired at no cost to them.

- a. Based on community feedback to date, the appropriate number and placement of fill stations should be determined based on a primary objective of minimizing the distance a resident will need to drive to obtain water. Additional criteria that the Management Zone will consider when identifying viable locations for fill stations include, but may not be limited to:

- i. The community has indicated its support for the installation of the fill station.
  - ii. The Management Zone can obtain permission to install and operate a station on land or property owned by a third party.
  - iii. The PWS meets drinking water standards, agrees to the proposed location, and will be able to provide a minimum capacity to dispense water at a reasonable rate to fill up multiple containers (up to five gallons) within a short period of time (target of 1.5-2 gallons/minute, consistent with California regulations for faucets in new residential construction).
  - iv. To the extent practical, the station location is within an area where the public already goes to meet other family needs (e.g., at a governmental facility, shopping center, school, or house of worship).
  - v. Establishment of a station is not expected to create any safety issues for users (e.g., location is in a well-lit area and typically regular traffic occurs in the area).
  - vi. Vehicle access/parking is available and enough to not cause any unnecessary congestion.
  - vii. Operation of the fill station does not create noise impacts to neighboring properties, especially during nighttime hours.
  - viii. To the extent possible, the location meets the goal of having a water fill station open 24 hours per day, 7 days per week.
- b. In implementing the Centralized Water Delivery Program element of the Emergency and Interim Drinking Water Program, the Management Zone will do the following:
- i. **Within 1 year**, install at least one water fill station within its boundaries.
  - ii. Throughout the term of MZIP implementation, continually consider development of additional water fill stations to provide a source of safe drinking water while long-term drinking water solutions are being developed and implemented. The number, locations, and scheduling of additional fill stations will be based on discussions with the community. If there is community interest, potential locations will be developed based on community recommendation. It is possible a selected location could also benefit residents in neighboring Management Zones.

- iii. Each time a water fill station becomes operational, the Management Zone will provide public notice to residents reliant on a well or PWS that does not meet the drinking water standard for nitrate, community participants, the Central Valley Water Board, and other interested parties that the station is open, its location and hours, and how to use the water fill station (e.g., where residents may obtain bottles and how to properly clean and store their bottles and water).
- iv. The Management Zone will monitor each water fill station it installs to obtain the following data: (1) volume of water dispensed; (2) fill station sampling plan analytical results; and (3) cleaning schedule. At a minimum, this information will be analyzed periodically to:
  - A. Determine patterns of usage at each facility.
  - B. Confirm fill station is meeting drinking water standards.
  - C. Determine if cleaning schedule at each facility is adequate.
  - D. Evaluate whether additional water fill stations are needed because of high demand at specific locations. If periods of high usage are identified at any water fill station, additional site monitoring may be temporarily conducted to determine if there are significant delays in obtaining water or congestion at the site.

### **Long-Term Drinking Water Program**

40. The Management Zone will implement a Long-Term Drinking Water Program to address the needs of residents with the Management Zone, or its areas of contribution, whose drinking water sources contain elevated nitrate concentrations. To the extent possible, this Program will proceed in parallel with the Emergency and Interim Drinking Water Program, using the information collected and lessons learned in those efforts to inform development of permanent or long-term drinking water solutions.
41. **Initial Focus Areas (“IFAs”)**. The Modesto MZIP proposes a phased approach for implementing long-term drinking water solutions, where initial efforts will be focused in specific areas selected based on their statuses as disadvantaged or severely disadvantaged communities, their densities of domestic wells in areas of elevated nitrate ( $\geq 7.5$  mg/L nitrate as N), and their densities of residents in elevated nitrate areas. The MZIP identified three IFAs:

IFA #1: Northwest of City of Modesto Area (South of Salida)

IFA #2: Southwest of City of Modesto Area (East of Empire)

IFA #3: Southwest of City of Modesto Area (Paradise Rd Area)

The Management Zone further proposes that, as MZIP implementation proceeds, the Management Zone may re-assess identified IFAs, identify additional IFAs, or prioritize implementation in areas outside of IFAs in circumstances where there is further progress on solutions and may propose these changes for Board consideration.

The Central Valley Water Board concurs that the proposed, IFA-based approach can be considered an appropriate and efficacious method for implementing the MZIP in a manner that prioritizes the needs of disadvantaged and/or most nitrate-impacted communities. However, the Central Valley Water Board also recognizes the need for the Management Zone to maintain flexibility to apportion its resources toward efforts where they can be used most efficiently. To this end, this Order endorses the IFA approach but does not impose IFA-specific requirements except for certain reporting elements. Rather, this Order imposes Management Zone-wide milestones for long-term drinking water solutions (below) and encourages the Management Zone to prioritize IFAs where appropriate.

42. The Management Zone will meet the following milestones for the Long-term Drinking Water Solutions Program:

**a. Development of Long-Term Solutions for Impacted Domestic Wells.**

i. **Within 2 years**, the Management Zone will submit to the Central Valley Water Board a work plan for conducting an evaluation of proposed long-term drinking water solutions for impacted domestic wells and development of an Implementation Plan for implementing such solutions. This work plan will include, at minimum, a range of proposed long-term drinking water solutions for impacted domestic wells, proposed categorization of potentially impacted wells by proposed solution (e.g., candidates for consolidation, in-home solutions, etc.), a timeline with quantifiable milestones for completing the evaluation and implementation within five years and for conducting public outreach on the proposed long-term solutions that will be subject to further refinement and evaluation. In determining the viability of a proposed solution, the Management Zone may consider a number of factors, including but not limited to: location of well relative to existing PWS, the level of nitrate in the well, and the presence of other potential contaminants.

ii. **Within 5 years**, the Management Zone will submit an Implementation Plan describing how it will implement long-term solutions for domestic wells. The Implementation Plan must include a timeline for implementing solutions and those solutions must reflect community input received during plan development, field

verification, anticipated funding for implementation, and coordination with other programs. The Implementation Plan may establish a schedule for implementation that prioritizes long-term solutions based on the Management Zone's IFA analyses. During the development of the Implementation Plan, the Management Zone will look for opportunities to expedite long-term solutions that may already be underway.

- b. **Implementation of Long-Term Solutions for Impacted Domestic Wells.** The Central Valley Water Board anticipates that long-term drinking water solutions for Management Zone residents whose domestic wells are impacted by nitrate will fall within one of three categories: (1) individualized solutions, (2) consolidation with a PWS, or (3) centralized treatment. The Board's expectations for each category are as follows:

- i. Individualized Solutions. Management Zone residents that obtain drinking water from nitrate-impacted<sup>11</sup> domestic wells and for whom consolidation with a PWS or centralized treatment are not feasible long-term solutions option will be to offer individualized solutions (e.g., individual home-based treatment systems) where such a solution can be implemented. These solutions are only required to address nitrate, not other co-contaminants that may be present in certain domestic wells. The Management Zone will be responsible for O&M for individualized solutions **for five years** from the date each solution becomes operational as a long-term solution if the solution is limited to addressing nitrate. In cases where the solution addresses other co-contaminants and the solution is paid in part by other funding, the term for O&M shall be determined based on the funding agreement between the Management Zone and the funding entity.

In implementing Long-Term Individualized Solutions, the Management Zone will meet the following milestones with respect to identified domestic wells in Management Zone or its area(s) of contribution for which consolidation or centralized treatment are not feasible solutions:

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<sup>11</sup> "Nitrate-impacted" means that nitrate as N is present in concentrations of 10 mg/L or more.

- A. **Within 6 years**, offer to implement solutions for 20 percent of wells.<sup>12</sup>
- B. **Within 9 years**, offer to implement solutions for 40 percent of wells.
- C. **Within 12 years**, offer to implement solutions for 60 percent of wells.
- D. **Within 15 years**, offer to implement solutions for 80 percent of wells.
- E. **Within 18 years**, offer to implement solutions for 100 percent of wells.

ii. PWS Consolidation, Regionalization, or Centralized Treatment Solutions. Where PWS consolidation, regionalization, or centralized treatment are feasible as long-term drinking water solutions for Management Zone residents that rely on nitrate-impacted domestic wells or state small water systems, the Management Zone will work with other Technical Assistance (“TA”) providers, local agencies, and other stakeholders to assist and help facilitate implementation of long-term solutions. To assist and facilitate implementation of these long-term solutions, the Management Zone will meet the following milestones:

- A. **Within 8 years**, the Management Zone, in coordination with the DDW and local communities, will have completed a prioritized plan for implementation of consolidation or centralized treatment solutions for all nitrate-impacted domestic wells and state small water systems.
- B. **Within 10 years**, the Management Zone will work with the DDW, SAFER program, and others to identify and develop potential TA and funding for consolidation and centralized treatment projects, to the extent such assistance and funding is available. Updates on this effort will be provided in the

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<sup>12</sup> For the purposes of these Individualized Solutions milestones, an “offer” must comprise, at minimum, (1) a letter and contact via telephone and/or email (if the telephone number and/or email address are known to the Management Zone) to the landowner that offers no-cost installation of the available individualized solution(s) and explains that O&M will be provided for by the Management Zone for a limited time, after which it will become the responsibility of the landowner; and (2) a letter to the resident(s) providing notification of the offer sent to the landowner under #1.

First 10-Year Exceptions Status Report and in the Five-Year Reports thereafter

- C. **Within 12 years**, the Management Zone, in coordination with the State or other designated project lead, will assist in providing outreach to residents reliant on nitrate-impacted domestic wells or state small water systems with respect to feasible consolidation.
- D. For low-income residents that meet Disadvantaged Community (“**DAC**”) or Severely Disadvantaged Community (“**SDAC**”) status, the Management Zone will subsidize consolidated water service costs. The maximum amount of subsidy will be based on an equivalent cost for providing bottled water to the low-income resident for a period of two years, or cost of the new service for two years, whichever is less. Updates on this effort will be provided in the Five-Year Report.

**43. Supporting PWS Improvements and Operations. Within 5 years**, the Management Zone, in coordination with the DDW and State Water Board Division of Financial Assistance, will submit the Central Valley Water Board a prioritized list of feasible PWS-related projects, including discussion of available funds and TA to support those projects, that the Management Zone proposes to support in order to help expedite PWS improvements and reduce O&M costs. As part of this process, the Management Zone will, at minimum, engage with PWS to determine the manner in which the Management Zone can support drinking water solutions for nitrate-impacted PWSs. Potential solutions to be explored may include, but are not limited to:

- Long-term non-treatment solutions: physical consolidation, managerial consolidation or regionalization, system optimization, and alternate water sources.
- Long-term treatment solutions: reverse osmosis, ion-exchange, electrodialysis, and biological denitrification.
- Long-term, non-traditional solutions: POU/POE, drinking water fill stations, water exchanges (agreements to exchange water sources amongst water systems or purveyors), and groundwater recharge.

**44. Funding for Long-Term Drinking Water Solutions.** Until long-term drinking water solutions have been provided or offered for all impacted Management Zone residents or the exceptions granted to participating dischargers have ended, whichever is sooner, the Management Zone will conduct ongoing periodic coordination with local governments, GSAs, PWSs, communities, and other

stakeholders in the Management Zone or its area(s) of contribution to identify, as applicable, opportunities for obtaining funding for long-term drinking water solutions.

**45. Transition from Emergency and Interim Solutions to Long-Term Solutions.**

Once a long-term drinking water solution that provides a permanent source of safe drinking water has been implemented in an area where residents are receiving water under the Emergency and Interim Drinking Water Solutions program, the Management Zone will notify the residents of the availability of the new source of drinking water and how they may obtain water from that source. The Management Zone's responsibility to provide interim drinking water solutions to a resident ends after the later of the following triggers: (a) 90 days after a resident has rejected or declined to respond to an offer to provide a long-term solution, or (b) 30 days after a long-term solution would have become active, if accepted (e.g., if neighboring homes were consolidated into a PWS and service to those homes has begun).

**Long-term Managed Aquifer Restoration**

46. The Management Zone's plan for long-term, managed aquifer restoration will continue to develop throughout MZIP implementation based on data collected, the success of the NRP, and coordination with GSAs and other agencies, among other factors. Management Zone restoration will likely involve multiple approaches, with some being implemented sooner than others. Such potential projects or management actions that maintain or improve groundwater quality over time include, but are not limited to:

- a. Source Control: Ceasing to cause or contribute to nitrate exceedances as sector-specific NRPs are implemented, which will assist in managed restoration.
- b. Intentional Recharge: Augmenting sources of water distributed across or injected into the groundwater system to recharge the system with high quality (low nitrate) source water.
- c. Non-Potable Beneficial Uses: Identifying strategies to support the use of shallow nitrate-affected groundwater for non-potable beneficial uses (e.g., pump and fertilize).
- d. Other Potential Approaches: Identifying other strategies to address restoration through new technologies that may become available in the future, where reasonable, feasible, and practicable.
- e. Extracting existing groundwater (including nitrate-impaired groundwater) for beneficial uses, thereby reducing the nitrate mass in the groundwater system and ultimately improving groundwater quality.

47. There is overlap between the Management Zone's interest in restoration approaches that maintain or improve groundwater quality and the interests of the GSAs in the Management Zone for replenishing groundwater supplies. In order to facilitate mutually beneficial outcomes, the Management Zone will collaborate with the GSAs within and overlapping with the Management Zone boundaries to identify and report in the Five-Year Reports on the following:

- a. How the GSAs' Groundwater Sustainability Plans' ("**GSPs**") recharge-related project priorities and the timing of such projects affect Management Zone interests.
- b. Whether there are other restoration efforts that may be mutually beneficial to both groups.
- c. Where intentional recharge can serve multiple benefits by: (a) increasing the volume of lower-nitrate concentration source water infiltrated (or injected) into and replenishing the groundwater system; and (b) reducing nitrate concentrations in groundwater.
- d. Prioritization of restoration strategies that result in the highest benefit to the public.

48. To support long-term aquifer restoration where reasonable, feasible, and practicable or, alternatively, proposals for de-designation of certain ground waters for the municipal and domestic supply beneficial use, the Management Zone shall meet the following interim milestones:

- a. **Within 5 years**, submit a Restoration Efforts Report documenting ongoing or planned efforts to assess and/or demonstrate the reasonability, feasibility, and practicability of potential restoration practices or technologies (e.g., intentional groundwater recharge, pump and fertilize, etc.) that may be used for long-term managed restoration of groundwater impacted by discharges of nitrate from participating dischargers. These efforts should include, but are not limited to, at least two in-field pilot projects or desktop or modelling studies. Projects may be conducted by the Management Zone, or its agents, independently or in coordination with GSAs, other Management Zones, or other entities.
- b. **Within 10 years**, submit a second Restoration Efforts Report, either as part of the 10 Year Report or separately, describing completion or continuation of at least two projects or studies efforts to assess and/or demonstrate the reasonability, feasibility, and practicability of potential restoration practices or technologies, including: how the project results inform the larger goal of long-term managed restoration; any data gaps; and either (i) a plan for long-term implementation of managed groundwater restoration efforts or (ii) a plan for additional pilot projects or studies that will build upon the lessons learned and data gathered over the

preceding years. Projects may be conducted by the Management Zone, or its agents, independently or in coordination with GSAs, other Management Zones, or other entities.

- c. **Within 15 years**, submit a third Restoration Efforts Report, either as part of an Annual Report, Five-Year Report, or separately, describing completion or continuation of any projects or studies that were described as planned or ongoing in the second Restoration Efforts Report, including: how the project results inform the larger goal of long-term managed restoration; any data gaps; and either (i) a preliminary plan for implementation of long-term managed groundwater restoration efforts or (ii), if restoration is deemed not to be reasonable, feasible, and practicable, a plan to submit a fully substantiated proposal for beneficial use de-designation(s) by Year 20.

### **Modesto Management Zone Surveillance and Monitoring Program (“SAMP”)**

49. The Management Zone will measure and document the progress and effects of its long-term managed aquifer restoration activities through the implementation of the Management Zone SAMP. The SAMP will use existing data sources. The Management Zone SAMP is intended to complement, not duplicate, the Central Valley-wide SAMP being implemented by the Central Valley Salinity Coalition pursuant to the Basin Plan.

The Management Zone’s SAMP will use subbasin-scale information that is already becoming available in [the existing Central Valley SAMP](#)<sup>13</sup> to track and report on groundwater quality trends and conditions. The Central Valley Region Formal SAMP Representative Trends Network is dynamic, since the dataset and corresponding trend monitoring well network are anticipated to grow over time. Future nitrate trend analyses will also incorporate and use data and analyses resulting from monitoring conducted for other programs, including Sustainable Groundwater Management Act (“**SGMA**”) compliance (e.g., GSP monitoring networks) and Nitrate Control Program Management Zone implementation.

The Management Zone monitoring network will focus on wells that have been evaluated and approved for use in robust monitoring programs administered by the United States Geological Survey (“**USGS**”), State Water Board Groundwater Ambient Monitoring and Assessment (“**GAMA**”) Program, and the agricultural coalitions as part of the ILRP Groundwater Quality Trend Monitoring (“**GQTM**”) Program (i.e., wells with known well construction information) and that also have some prior monitoring history, which will facilitate assessment of local

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<sup>13</sup> (<https://www.cvsalinity.org/central-valley-surveillance-monitoring-program-samp/>)

groundwater quality trends. The Management Zone will also incorporate domestic well results as appropriate that are resampled on an annual basis as part of the Management Zone Residential Well Testing program to supplement these other program datasets as needed.

**Record-Keeping and Reporting Requirements**

50. The Management Zone will maintain, for the duration of its existence, any records or reports required by this Order.
51. The Management Zone will, upon request by the Central Valley Water Board, submit any information related to the Nitrate Control Program consistent with all existing reporting obligations and public disclosure policies. If the Management Zone believes that any requested information may be confidential under state law or as part of previous decisions made by the State Water Board to maintain confidentiality of certain data and information, it must, upon receiving the request, identify the basis for not providing the information or the basis for confidentiality. If the Executive Officer cannot identify a reasonable basis for treating the information as confidential, the Executive Officer will notify the Management Zone that the information will be placed in the public file unless the Board receives, within 10 calendar days, a written request to keep the information confidential containing a satisfactory explanation supporting the requested confidentiality. Data on waste discharges, water quality, meteorology, geology, and hydrogeology will not be considered confidential, except as otherwise previously determined by the State Water Board.
52. In accordance with Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each such technical report submitted by the Management Zone or its participating dischargers shall bear the professional's signature and stamp.
53. Any person signing a document submitted pursuant to this Order shall make the following certification:

*I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there*

*are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

54. In developing reports required by this Order, the Management Zone will, as appropriate, notify participating dischargers in a timely manner of the need for information to support preparation of an MZIP report.

55. **Data Collection.** As it implements the Emergency and Interim Drinking Water Program, the Management Zone will maintain records of the following information:

a. General

i. Location, forum type, and general attendance figures for all outreach efforts.

ii. Number of requests to participate.

iii. Database of residents approved to participate (i.e., eligible residents).

iv. Follow up contact with residents to verify implementation at their residence.

v. Documentation of residences that were approved but did not follow through with implementation.

vi. If a domestic well is on an agricultural parcel subject to the ILRP or dairy parcel subject to the dairy program, the Management Zone will maintain documentation of how a situation was resolved if a resident or landowner on either type of parcel has requested that the Management Zone test their well, or if a resident or landowner requests that drinking water be provided based on a well result that exceeds the nitrate drinking water standard of 10 mg/L (Nitrate as N) obtained under either the ILRP or dairy program. Notably, the Management Zone is not responsible for an individual's regulatory compliance with either program and provides such testing and drinking water only to ensure that residents reliant on domestic wells receive notice of nitrate concentrations for wells used for their drinking water purposes.

b. Bottled Water Delivery.

i. Number of households being provided bottled water;

ii. Initial delivery date for each household; and

iii. Usage of water.

c. Individual Home-Based Treatment Systems.

i. Number of households being provided individual home-based water treatment systems and associated service plans;

ii. Installation date for each household;

iii. Status of any system monitoring recommended by manufacturer; and

iv. Status of any maintenance recommended by manufacturer.

d. Drinking Water Fill Station(s). Number of operable fill stations/kiosks and usage information for each.

56. In the Tailored Water Delivery Program, the Management Zone will maintain the following data: (1) number of requests received to participate; (2) database of residents approved to participate; (3) follow up contact with residents to verify implementation at their residence; and (4) documentation of residences that were approved but did not follow through with implementation at their residence. Data will be obtained from third-party vendors periodically as follows for each residence where service is being provided:

a. Bottled water delivery:

i. Initial bottled water delivery date

ii. Usage of water

b. Individual home-based treatment system:

i. Installation date of Individual home-based treatment system

ii. Status of any recommended nitrate monitoring by POU manufacturer

iii. Status of any recommended maintenance for the POU system by the POU manufacturer

57. The Management Zone will monitor each drinking water fill station it installs to obtain the following data: (1) volume of water dispensed; (2) dates and times that water is dispensed; (3) fill station sampling plan analytical results; and (4) cleaning schedule. At a minimum, this information will be analyzed periodically to:

a. Determine patterns of usage at each facility;

- b. Confirm fill station is meeting drinking water standards;
- c. Determine if cleaning schedule at each facility is adequate;
- d. Evaluate whether additional water fill stations are needed because of high demand at specific locations; and
- e. Provide a basis for compensating the land/landowner for water usage. If periods of high usage are identified at any water fill station, additional site monitoring may be temporarily conducted to determine if there are significant delays in obtaining water or congestion at the site.

58. Laboratory data, including those obtained through the ILRP Drinking Water Well Monitoring Program for drinking water wells on enrolled parcels, will be used to update the information that the Management Zone uses to identify additional areas for targeted outreach. The following information will be maintained by this program:

- a. Requests received from residents to have their water tested and the outcome of the requests.
- b. Laboratory reports indicating the sample date and the test results.
- c. Record of responses to residents and landowners informing them of their test results.
- d. Status of follow-up well sampling.
- e. Documentation of how a situation was resolved if the well was tested as part of the ILRP or dairy program, and how the resident's drinking water needs are resolved if the well test indicates that the well exceeds the nitrate drinking water standard of 10 mg/L (Nitrate as N).

59. **Monthly Report to Central Valley Salinity Coalition.** The Management Zone will report the following information to the Central Valley Salinity Coalition on a monthly basis so that the information can be incorporated into the Central Valley Salinity Coalition's dashboard, which is maintained on behalf of the management zone.

- a. Location, forum type, and general attendance figures for all outreach efforts.
- b. Number of total applicants for the Management Zone's Residential Domestic Well Testing Program and number of those applicants that are eligible.
- c. Number of residential domestic wells tested for nitrates.

- d. Number of residential domestic wells tested for other contaminants.
- e. Number of households being provided bottled water.
- f. Number of households being provided an individual home-based treatment system.
- g. Number of operable fill stations/kiosks and usage information for each.

**60. Annual Progress Report. Annually, by 1 November,**<sup>14</sup> the Management Zone will submit to the Central Valley Water Board an Annual Progress Report summarizing MZIP implementation from the previous calendar year. Five- and Ten-Year Reports will incorporate Annual Progress Report requirements and will be considered to satisfy this requirement. Each Annual Progress Report must include, at minimum, the following:

- a. For All Program Elements. This information may be provided in a combined format or on an element-by-element basis, as appropriate:
  - i. Status of implementation of all Management Zone interim milestones.
  - ii. Summary of outreach activities conducted in reporting year, including but not limited to, description of the type, number, and purpose of outreach activities and engagement of public or other stakeholders in outreach activities.
  - iii. Summary of ongoing or foreseeable challenges or obstacles to MZIP implementation and, to the extent possible, plans for addressing and overcoming these challenges and obstacles.
- b. Emergency, Interim, and Long-Term Drinking Water
  - i. Summary of the program reporting metrics submitted to the CVSC during the previous year (see Finding 59).
  - ii. Proposed modifications to the Emergency and Interim Drinking Water Program and/or the Long-Term Drinking Water Program, including, as appropriate, discussion of changes Management Zone's implementation prioritization strategy, including but not limited to: new or updated IFA

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<sup>14</sup> The first Annual Report is due 1 November 2026. The Central Valley Water Board anticipates that the first Annual Report will be significantly abbreviated, since it will only reflect approximately five months of MZIP implementation.

identification, analysis, or prioritization; how domestic well surveys will be or are being prioritized; and proposed timelines for implementing interim and long-term drinking water solutions.

- c. Nitrate Reduction Program. Summary of status of NRP implementation by each sector based on the information provided to the Management Zone from participating dischargers, including a summary of status on implementation of applicable interim milestones, key activities planned for implementation the following year and identification of any challenges that may result in implementation of alternative procedures to address issues of concern.

**61. For NRP-2a:**

- a. **Within 2 years**, CVDRMP, on behalf of the Management Zone, will submit a **Data Management System (“DMS”) Status Report** describing the status of development of the proposed DMS including but not limited to:
  - i. Statement of whether DMS will be operational and available for use by participating dairies by the end of Year 3, as proposed in MZIP Appendix NRP-2a, section 2.4.2.2.1. If DMS will not be available for use by this date, include explanation and estimated timeline for implementation.
  - ii. Records summarizing DMS development and peer review, including identification of parties involved in development and their respective roles.
  - iii. Description of actual and planned education and outreach for potential users.
- b. **Within 3 years**, CVDRMP on behalf of participating dairies shall prepare and submit a **CVDRMP Education and Outreach Workplan** to the Management Zone. For each Annual Progress Report after submittal of the Workplan, CVDRMP shall timely provide to the Management Zone a summary status of implementation of the Workplan.
- c. **Within 3 years, and annually thereafter**, include in the Annual Report:
  - i. Description of pond liner construction or reconstruction activities undertaken at participating dairies within the prior reporting period (i.e., Year 3 Annual Report should cover prior 3 years; subsequent Annual Reports should cover prior year).
  - ii. Summary of changes made to participating dairies’ Irrigation and Nutrient Management Plans (“**INMPs**”).

d. **Within 4 years and annually thereafter**, include in the Annual Report:

i. Description of baseline conditions for dairies, how the baseline was calculated (including identification of specific data used), and how the data used was gathered (i.e., via DMS or alternative). If baseline has changed from what was previously reported, description should include discussion of basis for change (e.g., new data, different data analysis method(s), etc.).

ii. Documentation of participating dairies' maximum average farm-scale manure N land application rates; maximum average farm-scale manure-N AR ratios and differences; and whole farm manure-N balance, as well as certification that each participating dairy has been informed of these values within the reporting year.

e. **Within 5 years**, CVDRMP on behalf of participating dairies shall identify and report to the Management Zone whether participating dairies are on track to achieve zero whole-farm manure-N balance by the end of Year 10, including supporting evidence. If it is anticipated that balance will not be achieved by the end of Year 10, discuss the impediments to achieving this milestone and the concrete steps that are being, or will be, undertaken to overcome these impediments. CVDRMP shall report this information to the Management Zone in a timely manner so that it can be included in the Five-Year Report due on 1 November 2030.

f. **In the first Five-Year Report**, CVDRMP on behalf of participating dairies shall timely provide the management zone with a status report on Manure Recycling and Innovative Products ("**MRIP**") Task Force, including description of meetings or other events, efforts undertaken or underway, impending efforts or plans, and general discussion of program successes, challenges, and failures.

g. **For the first Ten-Year Report**, the Management Zone will include:

i. **Updated Dairy Nitrate Reduction Program Plan (DNRPP)**. The plan shall include the significant new information obtained from completing Interim Milestones 1 through 8 of the Modesto MZIP and identify additional interim milestones and milestones for Phase II of NRP-2a.

ii. **MRIP Task Force Summary Report**. The summary report shall describe MRIP Task Force activities and summarize information on developments in manure recycling and innovative products.

iii. The Management Zone will submit documentation showing that all dairies participating in the Management Zone have **achieved zero whole-farm manure-N balance** and how balance was achieved or,

if balance has not been achieved, detailed explanation of why not, the steps to be taken to achieve balance as soon as possible, and the estimated timeline.

**62. For NRP-4:**

- a. In the 8th Annual Report, include the Management Zone Nitrogen Load Reduction Report discussed in Finding 22(d).

**63. The Management Zone will report on the status of implementation of Long-Term Drinking Water Solutions Program milestones as follows:**

- a. **Within 2 years**, as described in Finding 42(a)(i), submit a Work Plan for evaluation of long-term drinking water solutions for domestic well users and development of an Implementation Plan for implementing such solutions.
- b. **Within 5 years**, as described in Finding 42(a)(ii), an Implementation Plan for long-term drinking water solutions for domestic well users.
- c. **Within 8 years**, a prioritized plan for implementation of consolidation or centralized treatment solutions for all nitrate-impacted domestic wells and state small water systems.
- d. **Within 10 years**, status updates on identification and development potential TA and funding for consolidation and centralized treatment projects, to the extent such assistance and funding is available. Updates on this effort to subsidize replacement water service for low-income residents that meet DAC or SDAC status.

**64. Five-Year Reports. By 1 November 2030, and every five years thereafter**, the Management Zone will submit to the Central Valley Water Board a Five-Year Report that includes all required elements of the Annual Progress Report due that year, as well as the following:

- a. Discussion of whether the terms of nitrate exceptions granted to each participating discharger or category of participating dischargers are as short as practicable or whether one or more of those terms should be revised. This discussion should include, at minimum, description of the Management Zone and participating dischargers' achievement of applicable milestones and technical evidence in support of any assertions that exception terms should be maintained or extended.
- b. Nitrate Reduction Program
  - i. Sector-based Compliance Assessment:

- A. Proposed modifications to the NRP applicable to a specific sector, e.g., modifications to overall milestones and supporting interim deadlines or interim milestones.
  - B. Proposed modifications to the NRP, where applicable, to all sectors.
  - C. Status of implementation of Management Zone interim milestones applicable to all sectors (including individual facilities), e.g., data collection efforts, providing data to Management Zone to support compliance assessment-related activities, etc.
  - D. Summary of key activities planned for implementation in the next year by the Management Zone collectively or by each sector (including individual facilities).
- ii. For NRP-2a,
- A. Report on whether participating dairies are on track to achieve zero whole-farm manure-N balance by end of Year 10 as described in Finding 61(e).
  - B. Status report on MRIP Task Force as described in Finding 61(f).
- iii. For NRP-5, documentation of periodic coordination with local governments to align OWTS Policy implementation with MZIP implementation and efforts to identify or pursue funding options to support efforts to reduce groundwater impacts from septic system/OWTS.
- c. Emergency Interim and Long-term Drinking Water Solutions Program
- i. Prioritized list of feasible PWS-related projects, including discussion of available funds and TA to support those projects, that the Management Zone proposes to support in order to help expedite PWS improvements and reduce O&M costs
  - ii. Updates on efforts to subsidize replacement water service for low-income residents that meet DAC or SDAC status.
  - iii. Summary of projects implemented, projects and other activities planned for future years, identification of TA providers that are or will be working on these projects, and funding obtained or sought (on behalf of the Management Zone or other stakeholders) to support these projects or activities.

d. Aquifer Restoration, SAMP, and Other

i. Updated information on the status of groundwater recharge projects in the Management Zone and evaluation of progress made towards achieving the Nitrate Control Program long-term aquifer restoration goal.

ii. Report on coordination with GSAs and other agencies on:

- A. How the GSAs' recharge-related project priorities and the timing of such projects affect Management Zone interests.
- B. Whether there are other restoration efforts that may be mutually beneficial to both groups.
- C. Where intentional recharge can serve multiple benefits by:  
(a) increasing the volume of lower-nitrate concentration source water infiltrated (or injected) into and replenishing the groundwater system; and (b) reducing nitrate concentrations in groundwater.
- D. Prioritization of restoration strategies that result in the highest benefit to the public.
- E. The status of GSP implementation in the Management Zone and discuss GSP recharge-related project status/priorities and determine how GSP project priorities and the timing of such projects also address overall Management Zone restoration interests.
- F. The status of planned and implemented recharge projects and to the extent possible estimate existing or future benefits.

iii. Five-year Management Zone SAMP Report that includes the following:

- A. Table of findings for Trends Well Network (GAMA, GQTM, and the DDW well network, for wells with statistically increasing nitrate concentrations). Table to include for each well (but is not limited to): a period of record; number of sampling events; most recent nitrate result; minimum/maximum/and average nitrate concentration; and statistical result for most recent Mann-Kendall nonparametric trend analysis.

- B. Management Zone map with Trends Well Network symbolized to show nitrate concentrations and statistical results for nonparametric trend analysis.
- C. Summary of results from SAMP-related analyses, including key findings and identification of data gaps (if applicable relative to SAMP objectives). If data gaps are identified, steps needed to rectify data gaps and a timeline to address the data gaps will be included.

65. As noted above, with the submittal of the Five-Year Report, the Management Zone may propose modifications to the Emergency and Interim Drinking Water Program, Long-term Drinking Water Solutions Program, Nitrate Reduction Program, or other MZIP program element. These periodic formal reports will serve as the primary opportunities to adaptively manage implementation of the Nitrate Control Program in the Management Zone. However, if the Management Zone becomes aware of a critical need to recommend modifications to the MZIP prior to submittal of a regularly scheduled report, the Management Zone must submit a written request of such recommendations to the Central Valley Water Board in writing via a letter. However, no changes to implementation of the MZIP will be made without written approval of the Central Valley Water Board.

**10-Year Exceptions Status and Technology Assessment Report  
(Ten-Year Report)**

66. **By 1 November 2035, and every 10 years thereafter**, the Management Zone will submit to the Central Valley Water Board a 10-Year Report that includes all required elements of the Annual Progress Report and Five-Year Report due that year, as well as the following:
- a. The same content as above for Five-Year Report, but with a focus on GAMA and GQTM well network, as appropriate and supplemented by other well networks possibly including the DDW and/or GSP monitoring wells).
  - b. Status of the Management Zone, DDW, SAFER program, and others' efforts to identify and develop potential TA and funding for consolidation and centralized treatment projects, to the extent such assistance and funding is available.
  - c. Assessment of BMPs and treatment technologies, on a sector-by-sector basis, to determine whether feasible, practicable, and reasonable compliance options have become available.
  - d. For NRP- 2a

- i. Report seepage rate information consistent w/ metrics decided upon by the State Water Board petition order.
- ii. **Technology Advances Status Report** describing progress on Interim Milestone 7, including but not limited to discussion of:
  - Ongoing or impending studies, tests, etc.
  - Funding sought and/or obtained.
  - Discussion of challenges or impediments and what, if anything, will be or is being done to address these.

### Legal Findings

67. Pursuant to Water Code section 13263, subdivision (a), in adopting this Order, the Central Valley Water Board considered the beneficial uses to be protected, WQOs reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Water Code section 13241.

68. The State Water Board's *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (20 May 2004) ("**Nonpoint Source Policy**") describes five key elements that must be incorporated into regional water quality control boards' nonpoint source control implementation programs. The Nitrate Control Program is, in part, a nonpoint source control implementation program. For nonpoint source control-related provisions, the following five key elements are satisfied as follows:

- a. Key Element 1 is that the regional board must explicitly state the ultimate purpose(s) of their program and that such program must, at a minimum, address nonpoint source pollution in a manner that achieves and maintains WQOs and beneficial uses, including any applicable antidegradation requirements. This Order implements the Central Valley Water Board's Nitrate Control Program Management Zone Permitting Approach, a regionwide program that is in part a nonpoint source control program with the ultimate purpose of achieving reduced nitrate loading to the region's waters and, where possible, restoration of aquifers that have historically been impacted by nitrate discharges. Although this Order authorizes limited-term degradation and exceptions from the WQO for nitrate, these allowances are intended to foster long-term advances in nitrate management and control and achievement and maintenance of the WQO and beneficial use protection. As described herein, the limited degradation authorized by this Order is consistent with the maximum benefit to the people of the state.
- b. Key Element 2 is that the program must include sufficiently specific descriptions of management practices or other program elements that are

expected to be implemented to ensure attainment of the program's stated purposes, as well as the process to be used to select or develop those practices and the process to be used to ensure and verify proper implementation thereof. This Order approves the Modesto MZIP, a "playbook" for participating dischargers to develop and implement nitrate management measures and technologies. Dischargers participating in the Management Zone are required to collaboratively undertake iterative efforts to identify, design, and implement nitrate control methods, and to report to the Central Valley Water Board on these efforts and the successes or failures that result, in order to maintain a limited-term exception from the WQO for nitrate. While the full scope of management practices to be implemented over the life of the Nitrate Control Program are not currently certain, the pathways to identification and selection of such practices are clear. The Central Valley Water Board's continuing oversight of MZIP implementation, including a recurring five-year review at a public hearing, will ensure that participating dischargers are making diligent efforts to identify, select, and implement processes that achieve the Nitrate Control Program's ultimate objectives.

- c. Key Element 3 is that any compliance time schedule allowing time to achieve water quality requirements must include specific parameters, including quantifiable interim milestones designed to measure progress toward the ultimate requirement(s). Key Element 4 is that the program must include sufficient feedback mechanisms so that the regional board, dischargers, and the public can determine whether the program is achieving its stated purpose(s) or whether additional or different management practices or other actions are required. This Order establishes requirements and quantifiable milestones that participating dischargers must implement to maintain limited-term nitrate exceptions. Additionally, this Order sets quantifiable milestones for the Management Zone, on behalf of participating dischargers, which are conditions for maintaining participating dischargers' exceptions. Collectively, these milestones include but are not limited to continued provision of interim and long-term replacement drinking water to affected residents and preparation of Nitrate Reduction Workplans and Groundwater Quality Management Plans. The submissions and other tasks required by this Order and its attachments act as feedback mechanisms to indicate whether and how participating dischargers and the Management Zone are achieving the purposes of the Nitrate Control Program and, if necessary, whether additional or different actions are necessary. Feedback mechanisms include, but are not limited to, Annual Progress Reports, Five-Year Reports and Ten-Year Reports.
- d. Key Element 5 is that the consequences of failure to achieve the program's stated purpose(s) must be made clear in advance. The Nitrate Control Program, and this Resolution which implements that Program, are

clear that any nonpoint source discharger(s) failing to adequately implement the requirements of the Nitrate Control Program may be subject to enforcement action under the Water Code or other applicable authorities. Additionally, if the Management Zone itself fails to achieve the program's purposes, the Central Valley Water Board may impose new or different conditions for continuing participating dischargers' exceptions, modify exception term lengths, or rescind the exception for all participating dischargers.

69. Pursuant to the California Environmental Quality Act ("**CEQA**") (Pub. Res. Code, § 21000 et seq.), on 31 May 2018, the Central Valley Water Board adopted a Substitute Environmental Document ("**SED**") evaluating its establishment of the Central Valley Region Salt and Nitrate Control Programs (Resolution R5-2018-0034). Additionally, on 22 April 2021, the Board adopted a Supplemental Programmatic Environmental Impact Report ("**SPEIR**") evaluating the incorporation of the Salt and Nitrate Control Programs into its Irrigated Lands Regulatory Program (ILRP) (Resolution R5-2021-0017). The SPEIR augmented a 2011 Programmatic Environmental Impact Report ("**PEIR**") (State Clearinghouse # 2003021100), which evaluated the establishment of the ILRP (Resolution R5-2011-0017). In preparing this Order, the Central Valley Water Board considered the SED, PEIR, and SPEIR.

This Order, which imposes requirements on the Management Zone to provide interim replacement drinking and modifies participating dischargers' WDRs to incorporate monitoring, reporting, and management practices proposed in the Modesto MZIP, which itself was prepared in accordance with the Nitrate Control Program and ILRP, relies upon the environmental impact analysis contained in the SED, PEIR, and SPEIR. This Order does not affect a substantial change to the projects evaluated in those documents. Nor have there been substantial changes in the circumstances under which the Nitrate Control Program and ILRP are being undertaken, nor new information of substantial importance, that would necessitate further environmental review. (See Cal. Code Regs., tit. 14, § 15162.)

70. State Water Board Resolution 68-16, *Policy with Respect to Maintaining High Quality Waters of the State* ("**Antidegradation Policy**"), prohibits degradation of high-quality groundwater unless it is shown that such degradation will be consistent with the maximum benefit to the people of state; will not unreasonably affect present and anticipated future beneficial uses; and will not result in water quality less than that prescribed in state and regional policies. Resolution 68-16 further requires that any discharge to existing high-quality waters be required to meet WDRs that will result in the best practicable treatment or control ("**BPTC**") of the discharge necessary to assure that pollution and/or nuisance will not occur and that the highest quality consistent with the maximum benefit to the people of the state will be maintained. The Antidegradation Policy applies when the Central Valley Water Board authorizes an activity that will result in a discharge of waste to high-quality water(s) that will degrade the quality of that water(s). "High-quality

waters" are those waters where water quality is more than sufficient to support beneficial uses designated in the Basin Plan. Whether a water is high-quality water is established on a constituent-by-constituent basis, which means that an aquifer can be considered a high-quality water with respect to one constituent, but not for others (State Water Board, Order WQ 91-10). If the activity will not result in the degradation of high-quality waters, the Antidegradation Policy does not apply, and the discharger need only demonstrate that it will use "best efforts" to control the discharge of waste.

This Order grants an exception from implementation of the WQO for nitrate for dischargers participating in the Modesto Management Zone, all of whom discharge to the following groundwater basin: Modesto Subbasin (5-22.02). To the extent that any groundwater within this basin is high quality with respect to nitrate, the limited degradation of such high quality water(s) authorized by this Order is consistent with the maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that prescribed in state and regional policies. As stated in the *Central Valley Salt and Nitrate Management Plan Antidegradation Analysis* (Dec. 2016) ("**2016 Antidegradation Analysis**"), prepared by Larry Walker Associates, the requirement that "dischargers take responsibility for ensuring that all groundwater users affected by nitrates discharges in the management zone are made whole through the provision of replacement drinking water supplies" ensures that the most sensitive use of degraded groundwater (municipal supply) is not unreasonably affected over the short-term. (2016 Antidegradation Analysis, at p. 84.) Over the longer term, the Nitrate Control Program's overarching goal of achieving nitrate balance within the affected subbasin and restoring water quality within that aquifer where reasonable and feasible, will result in protection of existing and probable future beneficial uses. (*Ibid.*) While, "[i]n cases where balance and/or restoration is not reasonable or feasible, the Central Valley Water Board may need to evaluate the need to alter beneficial uses," the Analysis notes that "such a consideration is a last resort . . ." (*Id.* at p. 85.)

This Order incorporates tasks proposed in the MZIP as enforceable requirements, including but not limited to: provision of replacement drinking water for residents whose drinking water sources are impacted by nitrate discharges; iterative planning and project implementation in accordance with established schedules to make progress towards, and ultimately achieve, reduced nitrate loading and managed aquifer restoration over the long term; and monitoring and reporting programs to assure that plans, when implemented, are achieving progress towards attainment of the Nitrate Control Program's goals. These provisions, implemented as part of a long-term nitrate compliance strategy, will ensure that resultant degradation does not unreasonably affect present and anticipated beneficial uses of groundwater or result, over the long term, in water quality at or below the WQO for nitrate.

The requirements imposed via this Order, in addition to those existing requirements identified as BPTC for nitrate in participating dischargers' respective WDRs, constitute BPTC for those parties' discharges of nitrate to the Modesto Subbasin.

This degradation authorized by this Order is consistent with the maximum benefit to the people of the state because implementation of this Management Zone approach provides increased domestic water security for those residents that are most impacted by nitrate in groundwater. This program is also consistent with the maximum benefit to the people of the state because it provides for a cost-effective alternative to existing regulatory and management approaches that have historically failed to protect the region's waters. Participating dischargers will have greater latitude to invest in short-term drinking water solutions and long-term nitrate management and control measures while maintaining economic stability (e.g., maintained steady or growing employment, provision of goods, services, food security for the state and nation, and other benefits to local communities, etc.). Over the longer-term, this change is anticipated to have a greater net effect on nitrate reduction than existing nitrate control and management strategies. (2016 Antidegradation Analysis, at p. 88.) Moreover, this Order requires participating dischargers to continue and potentially expand existing efforts to provide replacement drinking water to those people of the state that would be the most negatively affected by the degradation authorized herein, and to provide replacement drinking water to those residents that are impacted by legacy sources of nitrate to groundwater. Ultimately, this approach ensures long-term viability for Central Valley communities dependent on agriculture and other industries that may discharge nitrate to groundwater. Allowing these dischargers to collectively identify and implement solutions that result in provisions of replacement water and reasonably, phased approaches for meeting nitrate WQO, rather than requiring compliance with rigid regional standards in short and unreasonable timeframes, is consistent with the maximum benefit to the people of the state.

71. This Order modifies WDRs that regulate facilities that may impact a disadvantaged community and/or tribal community to incorporate an alternative compliance pathway that allows affected dischargers time to come into compliance with the WQO for nitrate. The Central Valley Water Board has satisfied the outreach requirements set forth in Water Code section 189.7 by conducting outreach in affected disadvantaged and tribal communities through its notice and comment procedures. Pursuant to Water Code section 13149.2, the Board reviewed readily available information and information raised to the Board by interested persons concerning anticipated water quality impacts in disadvantaged or tribal communities resulting from adoption of this Order. The Board also considered environmental justice concerns within its authority and raised by interested persons with regard to those impacts. Moreover, the Modesto Management Zone conducts extensive outreach to residents of disadvantaged and tribal communities with respect to the Management Zone and

its ongoing programs. Over the last five years, the Modesto Management Zone has reached thousands of residents throughout the Modesto subbasin to inform them of the program.

The Central Valley Water Board anticipates that the adoption of this Order will result in water quality impacts within the scope of the Board's authority. Specifically, this Order authorizes discharges of nitrate that may cause or contribute to receiving waters containing nitrate in excess of the applicable WQO for a limited term. To address the impacts these discharges may have on nearby disadvantaged communities, the Board will require the dischargers to maintain continued compliance with the Nitrate Control Program and their WDRs or waiver of WDRs, as modified by this Order, as well as prescribing additional requirements within its authority when necessary and appropriate to reduce or eliminate such impacts.

72. The Central Valley Water Board provided public notice of and opportunities to comment on this Order prior to its consideration at a public hearing.

**THEREFORE, IT IS HEREBY ORDERED**, pursuant to Water Code sections 13263 and 13269 that:

1. The Central Valley Water Board approves the Modesto Management Zone Implementation Plan dated 5 September 2023.
2. Dischargers that are participating in the Modesto Management Zone and that are subject to the WDRs Orders listed in Table 1 are excepted from all requirements<sup>15</sup> that implement the WQO for nitrate in groundwater for the time periods listed in Table 1. This exception supersedes any conflicting requirement in any of the listed orders, Notices of Applicability issued to dischargers enrolled under those orders, or any other pre-existing requirement to comply with the WQO for nitrate in groundwater.
3. Order R5-2012-0116-11, *WDRs General Order for Growers within the Eastern San Joaquin River Watershed that are Members of a Third-Party Group* is revised as shown in Attachment A.
4. Order R5-2017-0058, *WDRs General Order for Confined Bovine Feeding Operations* is assigned Order number R5-2017-0058-01 and Finding 45 of that Order is revised as follows (deletions are indicated as strike-through text (~~deleted text~~) and additions are shown as underlined text (added text):

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<sup>15</sup> Requirements that implement WQOs other than those for nitrate and other forms of nitrate speciation remain valid and effective with respect to all other applicable constituents.

In 2006, the Central Valley Water Board, the State Water Board, and regional stakeholders began a joint effort to address salinity and nitrate problems in the region and adopt long-term solutions that will lead to enhanced water quality and economic sustainability. The stakeholder-led Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative has been coordinating efforts to implement new salt and nitrate management strategies. ~~As part of CV-SALTS, the Central Valley Water Board is developing amendments to the Basin Plans to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the waters and soils of the Central Valley. Strategies currently under consideration may:~~

- ~~a. Alter the way the Board calculates available assimilative capacity for nitrate, which could result in new or modified requirements for nitrate management;~~
- ~~b. Require Dischargers to implement actions identified under an interim salinity permitting approach; and/or~~
- ~~c. Establish alternate compliance approaches that would allow Dischargers to participate in efforts to provide safe drinking water to local communities in consideration for longer compliance time schedules.~~

~~Should the Board adopt amendments to the Basin Plans to effectuate such strategies, this Order may be amended or modified to incorporate any newly applicable requirements. The Board expects Dischargers that may be affected by new salt and nitrate management policies to coordinate with the CV-SALTS initiative.~~

In 2018, the Board adopted Resolution R5-2018-0034, amending the Basin Plans to incorporate, among other things, a new Nitrate Control Program and Exceptions Policy for Salinity, Nitrate, and/or Boron (Exceptions Policy). Resolution No. R5-2018-0034 was later amended by Resolution R5-2020-0057 to incorporate revisions proposed by the State Water Resources Control Board and the U.S. Environmental Protection Agency.

As the Nitrate Control Program progresses, the Central Valley Water Board may modify certain dischargers' Notices of Applicability ("NOAs") to incorporate requirements related to Management Zone participants' exceptions from implementation of the water quality objectives for nitrate and other forms of nitrate speciation. Any new or different requirements prescribed in dischargers' NOAs for this purpose shall be considered to be valid requirements of this Order

and, to the extent that any new or different requirement conflicts with the provisions of this Order, the new or different requirement prescribed in the NOA shall prevail. Any NOA modified for this purpose will be subject to the notice and comment requirements of Water Code section 13167.5 prior to consideration by the Board.

5. Order R5-2016-0087-01, *WDRs General Order for Poultry Operations* is assigned Order number R5-2016-0087-02 and Finding 37 of that Order is revised as follows (deletions are indicated as strike-through text (~~deleted text~~) and additions are shown as underlined text (added text)):

In 2006, the Central Valley Water Board, the State Water Board, and regional stakeholders began a joint effort to address salinity and nitrate problems in the region and adopt long-term solutions that will lead to enhanced water quality and economic sustainability. Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) is a collaborative basin planning effort aimed at developing and implementing a comprehensive salinity and nitrate management program. ~~The CV-SALTS effort may effect changes to the Basin Plans that would necessitate the re-opening of this Order.~~ In 2018, the Board adopted Resolution R5-2018-0034, amending the Basin Plans to incorporate, among other things, a new Nitrate Control Program and Exceptions Policy for Salinity, Nitrate, and/or Boron (Exceptions Policy). Resolution No. R5-2018-0034 was later amended by Resolution R5-2020-0057 to incorporate revisions proposed by the State Water Resources Control Board and the U.S. Environmental Protection Agency.

As the Nitrate Control Program progresses, the Central Valley Water Board may modify certain dischargers' Notices of Applicability ("NOAs") to incorporate requirements related to Management Zone participants' exceptions from implementation of the water quality objectives for nitrate and other forms of nitrate speciation. Any new or different requirements prescribed in dischargers' NOAs for this purpose shall be considered to be valid requirements of this Order and, to the extent that any new or different requirement conflicts with the provisions of this Order, the new or different requirement prescribed in the NOA shall prevail. Any NOA modified for this purpose will be subject to the notice and comment requirements of Water Code section 13167.5 prior to consideration by the Board.

6. The Modesto Management Zone on behalf of participating dischargers shall implement the programs and processes described in Findings 18-66, as described in the approved MZIP, in accordance with their respective timelines and due dates, to maintain compliance with the Nitrate Control Program. The

requirements described in this Order supersede any conflicting or different proposals in the approved MZIP.

7. If the Modesto Management Zone finds it necessary to make modifications to the approved MZIP based on new data or information, the Management Zone must submit a written request to the Executive Officer of the Central Valley Water Board. This request must include a justification for the modifications and summary of proposed revisions. Any modifications to the MZIP that impact or change timelines, milestones or deliverables identified in the MZIP must be approved by the Central Valley Water Board.

If the above requirements are not being fulfilled by the Modesto Management Zone on behalf of participating dischargers, the Board may take enforcement action, including but not limited to revoking the exception from meeting the WQO for nitrate for some or all of the participating dischargers.

Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. [Copies of the law and regulations applicable to filing petitions are available on the Internet](#) (at the address below) and will be provided upon request.

([http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality))

I, PATRICK PULUPA, Executive Officer, do hereby certify that the foregoing is a full true, and correct copy of an Order adopted by the California Regional Water Quality Control Board on 3 June 2026.

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PATRICK PULUPA, Executive Officer

**TABLE 1**

<b>Order Number</b>	<b>Order Title</b>	<b>Exception Term</b>
R5-2010-0130	WDRs General Order for Dairies with Manure Anaerobic Digester or Co-Digester Facilities	35 Years
R5-2011-0039	WDRs General Order for Centralized Dairy Manure Anaerobic Digester or Centralized Dairy Manure Co-Digester Facilities	35 Years
R5-2013-0122	Reissued WDRs General Order for Existing Milk Cow Dairies	35 Years
R5-2008-0100	John Fiscalini, Dba Fiscalini Farms	35 Years
R5-2017-0058	WDRs General Order for Confined Bovine Feeding Operations – Full Coverage Operations	35 Years
	R5-2017-0058, WDRs General Order for Confined Bovine Feeding Operations – Limited Population Operations / Limited Time Operations	10 Years
R5-2016-0087-01	General WDRs for Poultry Operations – Low Threat Operations	15 Years
	General WDRs for Poultry Operations – Full Coverage Operations	25 Years
R5-2012-0116-11	WDRs General Order for Growers within the Eastern San Joaquin River Watershed that are Members of a Third-Party Group	35 Years
R5-2025-0059	City of Modesto, City of Modesto Regional Water Recycling Facility – Sutter Campus/City of Modesto Regional Water Recycling Facility – Jennings Campus	20 Years

<b>Order Number</b>	<b>Order Title</b>	<b>Exception Term</b>
R5-2002-0098	Conagra Grocery Products Company, Ken Van Dyke, Marcus Haney, Jill Kaufman-Connolly, John Bricchetto, and Tony Amaral, Conagra Oakdale Facility	20 Years
94-360	Stanislaus County Parks Department, Modesto Reservoir Regional Park	25 Years
92-036	Salida Sanitary District and Mr. Derk Van Konynenburg	20 Years
94-273	City of Waterford, Wastewater Treatment Facility	35 Years
R5-2024-0066	Ratto Bros., Inc., Ratto Bros.	25 Years
NOA 97-10-DWQ-R5010	Del Rio West by Paramount LLC, Del Rio CSD Wastewater Treatment Facility	25 Years
NOA 97-10-DWQ-R5042	Del Rio East HOA, Del Rio East HOA Wastewater Treatment Plant	25 Years
NOA 2014-0153-DWQ-R5347	Del Rio Lago LLC, Del Rio Lago Wastewater System	25 Years
R5-2010-0121	Foster Farms, LLC, Foster Poultry Farms Ellenwood Chicken Hatchery	25 Years
2020-0012 DWQ	City of Modesto Co-Compost Facility	10 Years