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PRELIMINARY DRAFT GENERAL WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM NUT HULLING AND PROCESSING FACILITIES

ORDER R5-20XX-XXXX

The following Dischargers are subject to Waste Discharge Requirements (WDRs) as set forth in this General Order upon authorization by a Notice of Applicability (NOA):

Table 1. Discharger Information

Dischargers:	Individuals, private businesses, and other legal entities conducting nut hulling and processing operations that meet the eligibility requirements specified in this Order.

Table 2. Order Information

Order:	General Waste Discharge Requirements for Discharges from Nut Hulling and Processing Facilities within the Central Valley Region
Program:	Groundwater Quality Protection Program
Counties:	Modoc, Shasta, Lassen, Plumas, Butte, Glenn, Colusa, Lake, Sutter, Yuba, Sierra, Nevada, Placer, Yolo, Napa, Solano, Sacramento, El Dorado, Amador, Calaveras, San Joaquin, Contra Costa, Stanislaus, Tuolumne, Merced, Mariposa, Madera, Kings, Fresno, Tulare, Kern, Alameda, Alpine, Siskiyou

CERTIFICATION

I, PATRICK PULUPA, Executive Officer, hereby certify that this Order with all attachments is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **DD Month Year**.

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PATRICK PULUPA, Executive Officer

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FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereafter Central Valley Water Board or Water Board) hereby finds that:

Background

1. This General Order, or Order, establishes waste discharge requirements (WDRs) for discharges generated from the nut hulling and processing of almonds, pistachios, and walnuts, the three primary tree nuts produced in California. The nut industry in California is an important economic engine that contributes to the economy of the Central Valley. Almonds, pistachios, and walnuts rank among California's top-valued agricultural exports. Based on 2024 sales, almonds were the state's top valued agricultural export commodity, with pistachios ranking second.

    a. Almond production - California produces approximately 80 percent of the world's almonds and 100 percent of the U.S. commercial supply, with almond production concentrated in the Central Valley.

    b. Pistachio production - California produces about 99 percent of America's pistachios, with production centered in the Central Valley. Top producing counties include Kern, Madera, Fresno, Kings, and Tulare.

    c. Walnut production - Approximately 99 percent of U.S. walnuts are grown in California, primarily in the Sacramento Valley and parts of San Joaquin Valley.

2. Nut hulling and processing facilities are often located in rural areas not served by municipal sewer systems. Within the Central Valley Region, wastewater generated from hulling and processing operations is frequently managed through land application, including unlined ponds and land application areas (LAAs). Wastewater is generally applied to the LAAs on a daily basis during the harvest season when wastewater is produced. When applied at agronomic rates (i.e., at amounts that meet crop nutrient needs without exceeding soil or water quality limits) land application provides treatment of the organic portion of the waste and offers additional benefits such as water reuse and serving as a low-cost organic soil amendment for crops.

3. Almonds, pistachios, and walnuts are harvested from orchards and hulled in on- or off-site hulling facilities. Hulling is the removal of the dry outer covering over the shell of the nut. Nuts are typically hulled at centralized hulling facilities, but some growers may have their own onsite facilities. After the hulling process, the nuts are dried and sorted. Nuts may undergo further processing into various end products onsite or at a separate processing facility. Two separate process waste streams are generated at nut facilities. For the purposes of this Order, process water includes the following:

a. Process water from the hulling, washing, and sorting of the raw nuts.

b. Process water generated from other facility operations, which may include but not be limited to wash/rinse water from clean-in-place systems; washdown of the processing equipment and storage units; boiler blowdown; cooling tower blowdown; condensate from the steam pasteurizers; blanching (almonds); seasoning and roasting; filter backwash; and any storm water runoff that collects onsite. Operations at individual facilities vary and can include one or more of these processes.

4. Process or residual solids include organic matter removed by screens and filters, along with soil sediments during treatment. These solids typically include leaves, twigs, hulls, shells, and skins that are not treated prior to disposal. In the Central Valley, common management practices include land application as a soil amendment, distribution to farmers for agricultural use, use as animal feed, composting, or off-site disposal at a permitted solid waste facility.

5. Water Code section 13263, subdivision (i), authorizes the Central Valley Water Board to prescribe general WDRs for a category of discharges if all the following criteria apply:

   a. The discharges are produced by the same or similar operations.

   b. The discharges involve the same or similar types of waste.

   c. The discharges require the same or similar treatment standards; and

   d. The discharges are more appropriately regulated under general requirements than individual requirements.

6. Almond, pistachio, and walnut hulling and processing facilities typically involve similar operations, of similar type and character, and similar levels of treatment and disposal methods. This General Waste Discharge Requirements (WDRs) Order R5-20XX-XXXX (Order) establishes a regulatory framework for managing discharges and preventing adverse impacts to water resources from almond, pistachio, and walnut hulling and processing waste.

7. The following materials are attached and incorporated as part of this Order:

   a. ATTACHMENT A – Acronyms and Glossary

   b. ATTACHMENT B – Application/Notice of Intent Form

   c. ATTACHMENT C – Technical Report for Report of Waste Discharge

   d. ATTACHMENT D – Notice of Termination

   e. ATTACHMENT E – Monitoring and Reporting Program Template

f. ATTACHMENT F – Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports

g. Information Sheet

Scope and Applicability

8. This Order serves as general WDRs for almond, pistachio, and walnut hulling and processing facilities (Facilities) within the Central Valley region that apply process water or process solids to land owned or controlled by the Discharger. Facilities covered under this Order include those that hull, store, ship, or otherwise process nuts, including additional processing activities such as roasting or seasoning. Hulling activities generally include: receiving and unloading raw nuts delivered from orchards after harvest; pre-cleaning to remove debris such as sticks, leaves, dirt, and rocks; mechanical hulling to remove the outer hull or husk; separating hulls from nuts; washing nuts or hulls; sorting and screening to separate hulls, shells, culls, and clean in-shell nuts; collecting hulls and pomace; and temporary storage of nuts prior to shipment offsite or further processing (roasting, seasoning, etc.).

9. For purposes of this Order, the Discharger is defined as the owner and/or operator of a Facility enrolled in under this Order. Dried hulls or pomace that constitute as final product and are sold and transported offsite for use as animal feed or soil amendments, where such use is not controlled by the Discharger, are not regulated under this Order.

10. Facilities not covered by this Order include:

    a. Facilities that direct all process wastewater to a community sewer system or that containerize all process wastewater for off-site disposal at a permitted facility (i.e., “tank/hold” and “haul”).

    b. Facilities that generate wastewater from regeneration processes associated with water softeners, reverse osmosis units, and ion exchange systems, unless the regeneration waste stream is fully segregated from other discharges and transported offsite to a properly permitted wastewater treatment or disposal facility.

11. Dischargers enrolled under this Order, as specified in their Notice of Applicability (NOA), issued by the Executive Officer, are legally responsible for compliance with this Order.

12. This Order is intended to be the primary permitting mechanism for eligible nut hulling and processing facilities. Existing eligible Dischargers covered by individual site-specific WDRs or conditional waivers of WDRs may continue discharging under those authorities until they expire or the Central Valley Water Board determines that updated regulatory coverage is necessary or appropriate. If the Central Valley Water Board determines that, due to site-specific conditions,

coverage of certain Facilities under this Order will not be sufficient to protect water quality, the Central Valley Water Board may issue individual site-specific WDRs.

13. Discharges authorized under this Order are classified into regulatory tiers based on the Discharger's permitted annual facility process water design flow, pond use and pond liner status. The design flow is the total annual volume of process water that may be discharged to land, measured prior to treatment (e.g., before discharge to a pond or LAA).

Table 3. Tier Determination

Tier	Process Water Flow (gallons per year)	Pond Use and Liner Status
Exempt	< 10,000	N/A
Tier 1.1	10,001 – 2,000,000	No Ponds or Lined Ponds
Tier 1.2	10,001 – 2,000,000	Unlined Ponds
Tier 2.1	2,000,001 – 50,000,000	Lined Ponds
Tier 2.2	2,000,001 – 50,000,000	Unlined Ponds
Tier 3.1	> 50,000,001	Lined Ponds
Tier 3.2	> 50,000,001	Unlined Ponds

14. The following discharges are unlikely to degrade water quality and are therefore conditionally exempt from this General Order provided all conditions below are met. However, the Central Valley Water Board may determine individual WDRs are appropriate under site-specific conditions.

    a. Process water discharges to land that are less than 10,000 gallons per year (gpy).

    b. No waste is discharged:

        i. To surface waters or surface water drainage courses; and

        ii. That is classified as "hazardous," as defined in California Code of Regulations, title 23, section 2521, or "designated," as defined in Water Code section 13173; and

    c. The following best management practices are implemented:

        i. Manage hulls, process waste, and processing areas (e.g., storage, loading, conveyance, treatment, and disposal areas) to prevent, mitigate, and promptly clean up any spills;

ii. Maintain all process waste within property boundaries and within appropriate onsite use areas (e.g., loading, processing, storage, treatment, disposal, and reuse areas);

iii. Manage process waste to minimize nuisance conditions (e.g., objectionable odors; mosquitoes in ponds, ditches, and other open storage areas);

iv. Manage storm water that contacts process waste as process water; and

v. Protect stored process and residual solids from precipitation to minimize process water generation (i.e., use of secondary containment, covers, etc.).

15. Conditionally exempt facilities are not required to enroll under this Order. However, the Central Valley Water Board may direct certain exempt Dischargers to submit an application for coverage under the Order or cease their discharges if they take actions that, if they were enrolled under this Order, would violate any or the conditions stated in Finding 14, or that are otherwise determined to pose a threat to water quality. Additionally, if an exempt facility is determined to have caused or permitted a discharge of waste that creates, or threatens to create, a condition of pollution and/or nuisance, it may be required to remediate those conditions regardless of whether the facility is required to obtain permit coverage under this or a separate WDRs Order. (See Water Code, § 13304.) A facility's exempt status does not diminish the Central Valley Water Board's permitting or enforcement authority related to waste discharges.

16. Facilities that discharge less than 2,000,000 gpy of process water without using a pond, or that discharge to a lined pond, are considered to have a low potential for water quality degradation and may qualify as Tier 1.1. Facilities discharging less than 2,000,000 gpy to an unlined pond may pose a greater threat to water quality and/or nuisance and will be regulated under Tier 1.2. Tier 1 facilities in high density areas or determined by the Central Valley Water Board to pose a threat to water quality may be required to apply for Order coverage as Tier 2.

17. Facilities that land apply larger volumes of process water or use unlined ponds inherently pose a greater risk of groundwater degradation from excessive application and/or percolation of process water; therefore, Tier 2 and 3 facilities may be required to conduct groundwater monitoring pursuant to a site-specific MRP issued with their NOA. Where a Discharger demonstrates a reduced potential for groundwater degradation, groundwater monitoring requirements may be waived.

18. To manage organic waste generated from nut hulling and processing operations, some facilities, including the farmers themselves who perform hulling activities onsite, handle their residuals through "small-scale farm composting" activities. These activities generally involve composting crop residues (sticks, twigs, leaves,

hulls, shells, shell fragments, damaged or culled nuts and other debris removed during hulling and cleaning) generated by the agricultural operations.

Composting operations conducted on the farm or performed as part of agricultural, horticultural, aquaculture, silvicultural, floricultural, vermicultural, or viticultural activities may qualify as conditionally exempt provided all the following conditions are met. Conditionally exempt composting operations may be subject to other applicable federal, state, or local statues, requirements, permits, ordinances, and oversight requirements. Eligibility for a conditional exemption does not relieve the Discharger of the obligation to comply with all other applicable legal requirements.

a. The compositing operation utilizes only organic materials generated from onsite nut hulling and processing operations and does not accept off-site wastes.

b. Total volume of organic materials and active compost is maintained at levels consistent with low-risk, small-scale agricultural composting, not exceeding more than 200 cubic yards of green material stored at any one time.

c. Materials and activities on site must not cause, threaten to cause, or contribute to conditions of pollution, contamination, or nuisance.

d. Dischargers must implement practices to minimize or eliminate the discharge of wastes that may adversely impact the quality or beneficial uses of waters of the state.

e. Activities shall be setback at least 100 feet from the nearest surface water body and/or the nearest water supply well.

f. Dischargers must manage the application of water (including from precipitation events) to reduce the generation of wastewater; and

g. Working surfaces must be designed to prevent, to the greatest extent possible, ponding, infiltration, inundation, and erosion, notwithstanding precipitation events, equipment movement, and other aspects of the facility operations.

Application and Termination Process

19. Water Code section 13260, subdivision (a) requires that any person discharging waste or proposing to discharge waste within any region that could affect the quality of the waters of the State, other than into a community sewer system, shall file with the appropriate regional water quality control board a report of waste discharge (ROWD). Dischargers seeking coverage under this Order must file a ROWD, called a Notice of Intent (NOI) with the Central Valley Water Board. Dischargers seeking coverage under this General Order shall submit a complete

Notice of Intent form (**Attachment B)**, the appropriate filling fee (if required), and accompanying technical report, including but not limited to the information requested in **Attachment C** to the appropriate Central Valley Water Board office.

20. For new Dischargers, the filling fee submitted with the NOI serves as the first year's annual fee. The fee is waived if the Discharger is already enrolled under the *Waiver for Small Food Processors and Related Agricultural Processors within the Central Valley Region* (Waiver) or site-specific WDRs. Annual fees are determined by the Facility's tier and are aligned with the discharge's threat to water quality and complexity (see **Attachment B** for details). The fee schedule and ratings are available at:

    https://www.waterboards.ca.gov/resources/fees/water_quality/#wdr

21. The Central Valley Water Board will notify Dischargers of their enrollment under this Order by issuing a Notice of Applicability (NOA). The NOA, at a minimum, will confirm the Discharger's tier and applicable flow limit and provide a site-specific Monitoring and Reporting Program (MRP). Dischargers enrolled under this Order, as specified in the NOA, are legally responsible for compliance with this Order.

22. To terminate enrollment under this Order, Dischargers are required to submit a complete Notice of Termination (NOT), which can be found in **Attachment D**. An inspection of the facility may be required prior to termination of coverage. The Discharger will continue to be responsible for the fees and submitting self-monitoring reports required by this Order until the NOT is approved by the Central Valley Water Board.

23. A Discharger irrigating a commercial crop (e.g., a vineyard, orchard, or row crop) may be required to enroll its land application area (LAA) parcels under an Irrigated Lands Regulatory Program (ILRP) General Order. Dischargers may contact Central Valley Water Board staff to determine ILRP applicability. All eligible Tier 1 to Tier 3 Facilities that discharge process wastewater to land must apply for coverage under this Order regardless of whether the subject parcels are enrolled under an ILRP General Order.

24. This Order does not serve as a National Pollutant Discharge Elimination System (NPDES) permit or water quality certification under the federal Clean Water Act (33 U.S.C. § 1251 et seq.) nor does it authorize any discharge of waste to surface waters. Any discharge of waste to surface waters or that are otherwise subject to these authorities must be authorized under a separate order(s). Nut hulling and processing operations with the potential to discharge waste to a water of the United States may require coverage under a NPDES permit.

    Facilities with the potential to discharge storm water to a surface water of the United States are required to obtain coverage under the *General Permit for Storm Water Discharges Associated with Industrial Activities*, Order No. 2014-

0057-DWQ, NPDES No. CAS000001 (Industrial General Permit or IGP); the *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities*, NPDES No. CAS000002 (Construction General Permit); and any future promulgations thereof, if the terms of these permits apply to the facility.

Nut hulling and shelling operations generally fall under the Standard Industrial Classification (SIC) Code 0723, Crop Preparation Services for Market (Except Cotton Ginning) and typically are not required to obtain coverage under the IGP. However, the Central Valley Water Board may direct the Discharger to obtain coverage if it is determined that the facility is conducting activities under an SIC code that does require IGP enrollment.

25. For onsite composting operations that are not conditionally exempt, the Discharger may be required to enroll under the *General Waste Discharge Requirements for Commercial Composting Operations,* Order WQ 2020-0012-DWQ.

Process Water and Constituents of Concern

26. Nut process water collection and storage may involve the use of floor drains and trenches, piping, pumps, tanks, and ancillary equipment. Facilities will typically use ponds or LAAs to treat, store, reuse, and/or dispose of process water.

27. The majority of the process water is generated during the hulling, washing, and sorting of the nuts. Other sources of process water includes but not limited to wash/rinse water from clean-in-place systems; washdown of the processing equipment and storage units; boiler blowdown; cooling tower blowdown; condensate from the steam pasteurizers; blanching (almonds); seasoning and roasting; filter backwash; and any storm water runoff that collects onsite.

28. Process water quality varies based on source water quality, facility operations, and chemical use, and may also vary seasonally due to the organic nature of the waste during harvest months. The primary constituents of concern in nut process water include 5-day biochemical oxygen demand (BOD_5), salinity, and nitrogen. Chemicals used for sanitation and cleaning purposes can contribute to these constituents, and source water can be a significant source for salts and in some cases, nitrates in the process water

29. Nut process water characteristics for key constituents are summarized in the table below. The dataset includes analytical results from almond, pistachio, and walnut facilities in the Central Valley, drawn from WDR self-monitoring reports (SMRs), voluntary submittals through the Western Tree Nut Association (WTNA, formerly the Western Agricultural Processors Association), and facilities subject to MRP requirements. Not all facilities were subject to the same monitoring parameters and therefore did not report the same suite of constituents. Reported values represent average concentrations, with minimum and maximum

concentrations shown in parenthesis. Table represents primary constituents of concern. For a more comprehensive constituent list of almonds, pistachio, and walnut process water, see **Attachments E**.

Table 4. Nut Process Water Characteristics

Parameter	Almonds	Pistachio	Walnut
BOD_5, mg/L	1,383 (9 – 11,700)	3,691 (8 – 19,000)	2,739 (7.3 – 13,020)
EC, µmhos/cm	1,423 (200 – 15,000)	2,388 (228 – 17,000)	3,277 (3 – 12,800)
TDS, mg/L	2,439 (411 – 21,000)	4,167 (220 - 21,000)	4,535 (220 – 12,300)
FDS, mg/L	848 (100 – 11,000)	1,436 (19 – 11,000)	790 (22 – 6,150)
Chloride, mg/L	76 (24 – 130)	56 (0.2 – 500)	80 (2.5 – 287)
Sulfate, mg/L	31 (11 – 43)	172 (4 – 603)	61 (0.6 – 383)
Sodium, mg/L	105 (24 – 904)	40 (2 – 320)	47 (11 – 336)
Potassium, mg/L	198 (6.8 – 370)	723 (3.6 – 4,800)	1,430 (4.1 – 6,100)
Total Nitrogen, mg/L	66 (14 – 178)	199 (0.23 – 1,100)	78 (1.7 – 274)
Nitrate as N	0.99 (0.05 – 11)	3.4 (0.01 – 64)	4.2 (0.1 – 115)
TKN, mg/L	71 (2 – 202)	177 (0.01 – 1,100)	89 (1.5 – 220)

30. The dataset consists of six almond facilities (five of which conduct blanching, roasting and/or seasoning), twelve pistachio facilities, and nine walnut hulling operations (four unregulated facilities that provided data through WNTA and five that submitted data directly or under MRP requirements).

Pond(s) Use

31. Process water ponds (hereafter referred to as “ponds”) provide equalization, treatment, storage, operational flexibility, and/or disposal. Most ponds remove solids through settling, aerated ponds can enhance treatment by promoting organic matter reduction, and ponds with alternating aerobic and anoxic zones can remove or reduce nitrogen concentrations.

32. Pond size and land application acreage are interrelated; greater storage capacity reduces the acreage needed for land application, and the converse is also true. This balance depends on site conditions, process water volume and quality, treatment objectives, costs, and operational resources. For facilities operating year-round or during the wet season, adequate pond sizing is critical because land application is limited during wet weather (i.e. November through March).

33. A water balance shall be prepared to demonstrate that the pond has adequate capacity to contain all process water, storm water commingled with process water, and precipitation under both normal year and 100-year return period during the wet season (calculated monthly). The water balance shall account for all pond inputs (i.e., process wastewater, precipitation, and return flow) and pond outputs (i.e., reuse, evaporation, and percolation) and shall identify limiting operational factors such as insufficient storage capacity or seasonal water deficits (i.e., the need for supplemental water to meet crop irrigation demands).

34. Pond use may be seasonal, typically between August 1 and December 31 to coincide with nut hulling and processing operations, or year-round for facilities that store or treat process water outside the harvest season.

35. Ponds are generally emptied before the start of the harvest season to maximize available storage capacity when process water generation is at its highest. Pond water levels tend to increase throughout the fall and winter, when crop hydraulic needs are lower and precipitation is high, and decline during the spring and summer growing season, when water use is higher to account for increased evaporation and crop demand.

36. Undersized ponds can lead to process water spills, unauthorized discharges of waste, insufficient treatment, anaerobic conditions, and nuisance odors. Low dissolved oxygen (DO) levels are an early indicator of deteriorating pond performance and the need to evaluate operations and address identified performance issues (e.g., provide additional aeration).

37. Ponds that percolate process water have the potential to degrade underlying groundwater through increased constituent loading, mobilization of metals, and other geochemical changes. Ponds can be lined with an engineered lined surface (e.g., compacted clay, concrete, or synthetic liner) or other approved containment measures to mitigate a pond’s potential to impact underlying groundwater.

38. Excessive hydraulic or organic loading to ponds can create anaerobic conditions that can impair process water treatment and result in nuisance odors.

39. Ponds are susceptible to structural compromise from burrowing animals, which can increase the potential for uncontrolled seepage and associated water quality impacts.

40. Ponds at Tier 1.1 and Tier 1.2 facilities generally contain smaller volumes of process water for shorter periods of the year (i.e., seasonal operations). When

properly constructed and maintained, these ponds pose a lower threat to groundwater than ponds utilized by Tier 2 or Tier 3 facilities. Tier 1.1 and 1.2 facilities may continue to operate existing ponds at its present size provided the existing pond can comply with Order conditions on operational freeboard and groundwater separation. However, the Central Valley Water Board may require existing ponds to comply with the pond capacity requirements if the facility had or have the potential for frequent or significant spills. Additionally, groundwater monitoring or lining the ponds may be required depending on site-specific conditions.

41. Facilities that generate larger volumes of process water or rely solely on ponds for disposal have a greater potential for groundwater degradation. To mitigate this risk, this Order requires all ponds at Tier 2 and Tier 3 facilities to be lined to meet a hydraulic conductivity standard of 1×10^{-6} centimeters per second (cm/s) or less, unless a demonstration is provided to show that existing site-specific soil and hydrogeologic conditions are protective of groundwater quality and down-gradient users. Because immediate compliance may not be feasible for existing facilities, this Order includes a time-schedule for existing Tier 2 and Tier 3 facilities currently using unlined ponds, providing a structured transition period to meet the liner requirements.

Land Application Practices

42. Land application beneficially reuses process water to support crop and plant growth. Its potential benefits include crop and landscape irrigation, reducing or supplementing freshwater use, improving soil productivity and fertility, and providing a means of treatment and disposal. Process water also supplies organic matter and nutrients such as ammonium, nitrate, phosphorous, and potassium needed to sustain crops. When applied at appropriate agronomic rates, these nutrients can be effectively taken up and removed through crop growth and harvesting.

43. Land application of process solids as a soil amendment provides potential benefits such as soil reclamation, reducing the need for commercial fertilizers, and improving soil conditions including organic matter, water holding capacity, and tilth. These solids can also supply valuable organic matter and nutrients required to sustain crop production.

44. LAAs, where process water and solids are land applied for reuse of nutrients, can be effectively managed to prevent nuisance conditions (e.g., objectionable odors, fly breeding) and protect water quality by ensuring even application, infiltration within 48 hours, and applying water and nutrients at agronomic rates. An agronomic rate is the rate of application of process water and nutrients necessary to satisfy plant demand (crop uptake) while minimizing the movement of process water and nutrients below the root zone.

45. LAAs should be designed to promote uniform water distribution and prevent

runoff, ponding, or erosion. Site controls such as containment berms, ditches, or tailwater collection systems may be necessary to reduce the potential for off-site discharges.

46. Irrigation systems are typically designed to irrigate slightly above a plant's evapotranspiration needs by incorporating a reasonable leaching fraction (e.g., 10 to 15 percent depending on soils) to ensure salts do not accumulate in the soil profile. Irrigation volumes are based on the irrigation method (drip, sprinkler, furrow, or flow) and efficiency.

47. Nitrogen is a primary plant nutrient that is taken up by plants as nitrate or ammonium ions. Nitrogen uptake by crops is subject to many environmental and management variables, is crop specific, and changes during the growing season. Nitrogen in process wastewater and solids become plant available more slowly than synthetic nitrogen fertilizers.

48. Nitrogen in process wastewater goes through various chemical and biological transformations depending on temperature, aeration, moisture, and microbial activity. Organic nitrogen mineralizes over time to ammonia, some of which is converted to nitrate by microbes under aerobic conditions (nitrification). Nitrate is mobile in the environment and can move with soil water to the root zone where it can be taken up by plants, continue to groundwater, or be converted to nitrogen gas and lost to the atmosphere (denitrification). Ammonium nitrogen is readily adsorbed to soil particles and has limited mobility in soil.

49. The soil profile removes biodegradable organics (measured as BOD_5) via filtration, adsorption, and biological activity. Because most microbial activity occurs near the surface, it is important to maintain an aerobic upper soil profile between irrigation cycles.

50. Excessive application of high organic strength wastewater can create objectionable odors, soil conditions that are harmful to crops, and degradation of underlying groundwater with nitrogen species and metals. Such degradation can be prevented or minimized through the implementation of best management practices, such as field rotation, alternating wet and dry periods, infiltration within 48 hours, and managing hydraulic and organic loading to maintain aerobic soil conditions.

51. The *Manual of Good Practice for Land Application of Food Processing/Rinse Water*[1] (California League of Food Producers, 2007/2024; hereafter referred to as *Manual of Good Practice*) proposes risk categories associated with BOD_5 loading rate as follows:

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[1] California League of Food Processors. 2024. Manual of Good Practice for Land Application of Food Processing/Rinse Water. Prepared by Brown and Caldwell and Kennedy/Jenks Consultants.

Table 5. BOD_5 Risk Categories

Risk Category	Average BOD_5 Loading Rate (lb/ac/day)	Depth to Groundwater (ft)	Notes
1	≤ 50	> 5	Indistinguishable from good farming operations with good distribution important
2	≤ 100	> 2	Minimal risk of unreasonable groundwater degradation with good distribution more important.
3	> 100	< 2	Requires detailed planning and good operation with good distribution very important to prevent unreasonable degradation, as well as use of oxygen transfer design equations that consider site specific application cycles and soil properties and special monitoring.

The *Manual of Good Practice* recommends allowing a 50 percent increase in BOD_5 loading in cases where sprinkler irrigation is used and recommends that additional safety factors be used for sites with heavy and/or compacted soils. Factors that affect the acceptable BOD_5 loading rate for a site include soil type and permeability, soil drainage, method of application, depth to groundwater from the soil surface, temperature, and presence or absence of a cover crop.

52. The *Manual of Good Practice* was revised in February 2024. As part of the 2024 update, the California League of food Producers conducted a peer review process of the *Manual of Good Practice* by contracting with scientists, professors, and engineers from California Polytechnic State University, San Luis Obispo, and the University of California, Davis. The Manual of Good Practices provides science-based guidance for BOD_5 loading rates that, if fully implemented, are considered a best management practice to prevent groundwater degradation due to reduced metals.

Solids Management

53. Nut hulling and processing operations include a pre-cleaning process to remove leaves, stems, twigs, branches, and other debris (collected during harvest) prior to processing. This green material is often collected and segregated for composting, returned to the fields and land applied as a soil amendment, or shipped offsite for reuse as a commodity (livestock feed) or disposal (i.e., at a landfill or other appropriately permitted facility).

54. Screens; filters; and settling sumps, pits, tanks, and/or ponds are often used in Facility operations for sorting or to remove fines and suspended solids from the process water. Solids removal prior to directing process water to flowmeters, storage tanks, treatment systems, or irrigation systems minimize clogging, extends the life of the equipment, improves treatment efficiency, and restores system capacity. Accumulated solids, sludge, and scum in ponds, tanks, sumps, and pits require periodic dredging and maintenance to ensure continued operational capacity.

55. Screened solids, hulls, and blank or broken shells are collected and either transported offsite for reuse, including use as animal feed, soil amendment, or composting; composted onsite; or temporary stockpiled onsite for drying prior to reuse or offsite disposal.

56. Process solids and associated leachate (i.e., liquid draining from solids during storage or following precipitation events) may contain elevated nitrogen, salinity, and other constituents which can be released as the organic material in the solids breaks down. Discharge or percolation of this high strength wastewater can potentially reach and degrade groundwater. This Order requires process solids to be stored and managed to minimize potential for leachate or runoff from solids storage areas (e.g., storage on concrete pads, bins, covers, secondary containment, etc.).

57. Land application or composting of organic solids removed from the waste stream or during nut hulling and processing operations provides beneficial reuse including recycling of nutrients back to the farming operation thus reducing the need for synthetic fertilizers. This can also reduce the amount of material sent to landfills thus extending the life of a landfill. This Order requires process solids applied to the LAAs to be properly managed to minimize potential nuisance conditions and monitored to account for nutrient loading as part of the Discharger's MRP. This Order authorizes the onsite land application of process solids provided that the Discharger submits a *Solids Management Plan* with the NOI and/or technical report.

Basin Plan Implementation

58. Pursuant to Water Code section 13263, subdivision (a), WDRs shall implement any relevant water quality control plans and take into consideration the beneficial uses to be protected, water quality objectives (WQOs) reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Water Code section 13241.

59. This Order implements the Central Valley Water Board's Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin (Sacramento/San Joaquin Basin Plan) and the Water Quality Control Plan for the Tulare Lake Basin (Tulare Lake Basin Plan) (collectively, Basin Plans). The Basin Plans designate beneficial uses, establish WQOs, and contain

implementation programs and policies to achieve those objectives for all waters (surface waters and groundwaters) within the corresponding basins.

60. The Basin Plans designate the beneficial uses of groundwater in the Central Valley region to include municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO). Unless otherwise designated by the Central Valley Water Board in its Basin Plans, all groundwaters within the Central Valley are considered suitable, or potentially suitable, for these beneficial uses.

Water Quality Objectives (WQO)

61. As described below, the Basin Plans establish numeric WQOs for bacteria and chemical constituents and narrative WQOs for chemical constituents, tastes and odors, and toxicity in groundwater.[2]

    a. The numeric WQO for bacteria requires that, for groundwaters designated for MUN, the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL.

    b. The combined numeric and narrative WQO for chemical constituents requires that groundwaters designated for MUN not contain chemical constituents in concentrations that adversely affect beneficial uses and, at a minimum, not contain concentrations of chemical constituents in excess of the Maximum Contaminant Levels (MCLs) specified in California Code of Regulations, title 22, sections 64431, 64444, and 64449.

    c. The narrative WQO for tastes and odors requires that groundwaters not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

    d. The narrative WQO for toxicity requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses.

62. Quantifying a narrative WQO requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plans state that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations to implement the narrative objective. In

[2] The Basins Plans also establish a narrative WQO for radioactivity in groundwater, and the Tulare Lake Basin Plan includes narrative WQOs for pesticides and salinity, but those WQOs are omitted because they are not relevant to this Order (i.e., radioactivity) or are subsumed by other WQOs (i.e., salinity and pesticides fall within scope of narrative WQO for chemical constituents).

the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria.

Salt and Nitrate Control Program

63. On 31 May 2018, the Central Valley Water Board adopted Basin Plan amendments incorporating the Salt and Nitrate Control Programs (Resolution R5-2018-0034). The Basin Plan amendments became effective on 17 January 2020. On 10 December 2020, the Central Valley Water Board adopted revision to the Basin Plan amendments with Resolution R5-2020-0057, which became effective on 10 November 2021.

(https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/resolutions/r5-2020-0057_res.pdf.).

64. The overarching goals and priorities of the Salt and Nitrate Control Programs are to (1) ensure safe drinking water supplies; (2) reduce salt and nitrate loading so that ongoing discharges neither threaten to degrade high quality waters absent findings by the Central Valley Water Board, nor cause or contribute to exceedances of WQOs; and (3) implement long-term managed restoration of impaired water bodies.

65. To ensure compliance with the Salt and Nitrate Control Programs, this Order incorporates the Basin Plans' Conditional Prohibitions for these Programs.

a. For the Salt Control Program (SCP), dischargers that received a Notice to Comply are prohibited from discharging salts in concentrations that exceed the salinity numeric values in the Phase 1 Conservative Permitting Approach (700 µmhos/cm as a monthly average or 900 µmhos/cm as an annual average) unless they have elected and are actively implementing the Alternative Salinity Permitting Approach Phase 1 requirements of the SCP.

b. For the Nitrate Control Program (NCP), dischargers subject to the NCP are prohibited from discharging nitrate to groundwater unless they comply with the NCP requirements. A Discharger is subject to the NCP under any of the following circumstances:

i. Notice to Comply – The Discharger received a Notice to Comply under the NCP.

ii. New or Expanded Discharge in a Groundwater Basin/Sub-basin (regardless of priority) – After the effective date of the NCP (17 January 2020), the Discharger either initiates a new discharge or makes a material change to its operation that increases the level of nitrate discharged to groundwater.

Salt Control Program

66. The Salt Control Program (SCP) provides a framework for controlling and permitting salt discharges (i.e., electrical conductivity [EC], total dissolved solids [TDS], chloride, sulfate, and sodium) to groundwater in the Central Valley region. The SCP will be implemented in three ten-to-fifteen-year phases, wherein the findings from each phase will inform the next, allowing for adaptive management of salt discharges in the Central Valley region. The first phase (Phase 1) is underway.

67. During Phase 1, Dischargers of salt are required to select one of two permitting pathways: the Conservative Permitting Approach or the Alternative Permitting Approach.

    a. **Path 1 Conservative Individual Option.** Dischargers must meet conservative salt-loading limits and limited use of assimilative capacity and/or compliance time schedules.

    b. **Path 2 Alternative Cooperative Option.** Dischargers must maintain current efforts to control salinity in their discharges and fully participate in the regionwide Prioritization and Optimization (P&O) Study. Dischargers enrolled in Path 2 of the SCP are required to maintain salinity levels in their discharge to meet an annual performance-based salinity action level based on the facility's maximum average salinity concentration over the last five years. Dischargers unable to comply with their respective salinity action level will be required to evaluate and implement additional salinity control measures. Dischargers that meet these requirements will be deemed in compliance with the salinity discharge requirements of this Order.

68. Based on the nature of the discharges permitted by this Order (nut hulling and processing waste), the majority of eligible facilities for this General Order will likely not meet the thresholds set by the Conservative Permitting Approach. It is anticipated that most Facilities enrolled under this Order will participate in the regionwide P&O Study.

69. **Tiers 1 – 3** facilities are subject to the SCP. Dischargers may switch from one approach to another by submitting documentation regarding how the permittee will comply with the requirements applicable to the compliance pathway elected and the basis for the change. If the Discharger requests to change from the Alternative to the Conservative Permitting Approach, the Discharger must demonstrate to the Board that it has complied with all provisions associated with the Alternative Compliance Permitting Approach, including financial support to the P&O Study, up through the time of permit revision to incorporate requirements for the Conservative Approach. If the Discharger requests to change from the Conservative Permitting Approach to the Alternative Approach, the Discharger shall meet the financial commitment requirements of the P&O

Study.

Nitrate Control Program

70. Dischargers subject to the Nitrate Control Program (NCP) may elect to be regulated under one of two permitting pathways: the Individual Permitting Approach (Path A) or the Management Zone Approach (Path B).

a. **Path A Individual Permitting Approach.** Requires immediate and ongoing compliance with applicable water quality standards. Requires dischargers to evaluate the impact of their discharge on nitrate concentrations in shallow groundwater underlying the area of discharge (i.e., Shallow Zone). Based on that evaluation, facility discharges will be identified as falling into one of five categories of nitrate discharges (see Basin Plan Amendment, Table N-3).

[https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/resolutions/r5-2020-0057_res.pdf].

Dischargers whose permitted discharge causes or may cause nitrate in the Shallow Zone to exceed 75 percent of the WQO for nitrate (i.e., Category 4 and 5 dischargers) may be required to develop and implement long-term Alternative Compliance Projects (ACPs) with identified milestones for addressing nitrate-related drinking water issues (see Basin Plan Amendment, Table N-5.A and Table N-5.B for detailed compliance schedule).

b. **Path B Management Zone Approach.** Provides an alternative compliance pathway whereby dischargers may obtain exceptions from the water quality objective for nitrate if they participate in a basin-specific Management Zone. Permitted dischargers of nitrate may elect to comply with the NCP by participating in basin- or sub-basin specific Management Zones. Path B dischargers must collaborate with other dischargers within their respective Management Zones to ensure provision of safe drinking water to adversely affected residents within their areas and to develop and execute Management Zone Implementation Plans (MZIPs) for managing and reducing nitrate loading to groundwater.

71. The NCP is prioritized to first address public health risks associated with drinking water that exceeds the primary MCL for nitrate and, second, to achieve balanced nitrate loading to, and possibly restoration of, groundwater basins/sub-basins. To this end, in establishing the NCP, the Central Valley Water Board identified and categorized Groundwater Basins/Sub-basin (Priority 1, Priority 2, and non-priority) and established timelines for phased implementation of the NCP in these prioritized areas. As of the date of the adoption of this Order, Priority 1 Management Zones have MZIPs that are either accepted or approved by the Central Valley Water Board. Priority 2 Management Zones have approved Early

Action Plans and are in the process of developing MZIPs. Groundwater basins that are not currently prioritized may be designated as a high priority on a case-by-case basis when determined necessary by the Central Valley Water Board. In such cases, existing dischargers to those basins will receive Notices to Comply, including a time schedule for implementation of NCP requirements. Existing dischargers in Priority 1 and 2 basins/sub-basins, as well as some existing dischargers in non-prioritized basins/sub-basins, have already selected their respective pathways in response to previously issued Notices to Comply.

72. New dischargers or existing dischargers proposing to increase the level of nitrate discharged to any designated groundwater basin/sub-basin (regardless of priority)[3] must specify their chosen NCP permitting pathway and provide initial nitrate assessment information in their NOI for coverage under this Order. If a Management Zone does not exist at the time of application, the Central Valley Water Board may use its discretion to issue a time schedule to the discharger to comply with the Nitrate Control Program through a later-formed Management Zone. Dischargers of nitrate located in areas that are not part of a designated basin/sub-basin are not subject to the NCP unless they receive a Notice to Comply.

73. Dischargers seeking coverage under this Order are required to submit confirmation on their selected pathway as part of their NOI. For Dischargers at existing facilities that are already enrolled under the NCP and are proposing to expand their discharge of nitrate the NOI must include an updated nitrogen assessment including an evaluation on the estimated increase in nitrogen loading from the proposed expansion and compliance with existing path requirements. Submittal requirements are outlined in **Attachment C**.

74. If a discharger would like to elect a different permitting pathway under the NCP, they must notify the Central Valley Water Board in writing. The Central Valley Water Board will consider approval of the requested change on a case-by-case basis.

75. **Exceptions from the Implementation of the WQO for Nitrate (Nitrate Exception).** As described in the Basin Plans' Exceptions Policy, exceptions are intended to facilitate long-term attainment of WQOs or to provide the time needed to revise an inappropriate WQO or beneficial use designation. Dischargers granted a nitrate exception may not be required to comply with effluent and/or groundwater limitations for nitrate. Exceptions shall generally not exceed a term of ten years; however, the Central Valley Water Board may adopt exceptions up to 35 years for nitrate if the applicant(s) can demonstrate that it is necessary to further the management goals of the NCP. Any permitted

[3] See Figure N-1 of Resolution R5-2020-0057 (https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/resolutions/r5-2020-0057_res.pdf).

discharger, or a recognized third party acting on behalf of multiple dischargers, may apply to the Central Valley Water Board for an exception from implementation of WQOs for nitrate for their wastewater discharges. For dischargers participating in a Management Zone, the MZIP may substitute for an exception application if it meets the criteria described in the Exceptions Policy. The Central Valley Water Board may rescind exceptions if the applicant(s) does not comply with the terms and conditions of their exception. The issuance, modification, or rescission of any exception must be approved by the Central Valley Water Board after public notice and hearing.

76. As these strategies are implemented, the Central Valley Water Board may find it necessary to modify the requirements of this Order to incorporate new or modified requirements to ensure that the goals of the Salt and Nitrate Control Programs are met. As the NCP progresses, the Central Valley Water Board may modify enrolled dischargers' NOAs to incorporate nitrate exceptions and requirements related to those exceptions and, as applicable, participation in respective Management Zones. Any new or different requirements prescribed in dischargers' NOAs for this purpose shall be valid requirements of this Order, and, to the extent that any new or different requirement conflicts with the provision of this Order, the new or different requirement prescribed in the NOA shall prevail. Any NOA modified for the purpose of granting, modifying, or terminating a nitrate exception will be subject to the notice and comment requirements of Water Code section 13167.5 prior to consideration by the Central Valley Water Board.

Antidegradation Policy

77. State Water Resources Control Board (State Water Board) Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California* (Antidegradation Policy) prohibits the Central Valley Water Board from authorizing degradation of "high quality water" unless it is demonstrated that such degradation will (1) be consistent with the maximum benefit to the people of the State, (2) not unreasonably affect present and anticipated future beneficial uses, or otherwise result in water quality less than as prescribed in applicable policies, and (3) be required to meet WDRs that will result in the best practicable treatment or control (BPTC) to assure that pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

78. The Antidegradation Policy applies when the Central Valley Water Board authorizes an activity that will result in discharges of waste to high-quality waters that will degrade the quality of those waters. "High-quality waters" are defined as those waters where the water quality is more than sufficient to support beneficial uses designated in the Basin Plans. Whether a water is a high-quality water is established on a constituent-by-constituent basis, which means that an aquifer may be considered high-quality water with respect to one constituent, but not for others (State Water Board Order No. WQ 91-10). If the activity will not result in the degradation of high-quality waters, the Antidegradation Policy does not apply,

and the dischargers need only demonstrate that it will use "best efforts" to control the discharge of waste.

79. Maintenance of existing high quality waters of the state unless limited degradation is consistent with maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial use of the water, and will not result in water quality less than that prescribed in state policies. Higher quality water will be maintained until it has been demonstrated to the state that any change will be consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial uses of the water, and will not result in water quality less than that prescribed in state policies

80. This Order authorizes discharge to multiple groundwater basins throughout the Central Valley region, each with its own geochemical characteristics. There is insufficient data to determine the quality of every potential receiving water for every potential constituent of concern (COC); however, it is likely that some of these receiving waters are high-quality and will be degraded by discharges authorized under this Order. Therefore, the Antidegradation Polity applies to the adoption of this Order.

81. The primary constituents of concern in almond, pistachio, and walnut waste that have the potential to degrade water quality are organics, nitrogen, and salinity.

Organics

82. Nut process waste typically consists of high concentrations of biodegradable organic material. Organic matter (measured as BOD_5) can enhance soil productivity and crop growth; however, excessive applications can create anaerobic conditions, which can cause nuisance conditions and groundwater degradation. Under oxygen-deficient conditions below the ground surface, anaerobic decay of organic matter can promote reducing conditions that alter the redox state of metals naturally present in the soil. Metals that are typically insoluble in oxidized conditions (e.g., ferric iron, manganese oxides, arsenate), can be reduced to more soluble species (e.g., ferrous iron, manganese (II), arsenite), increasing their mobility. Acidic soils or acidic wastewater can further accelerate this process by lowering pH and enhancing metal solubility. If reducing conditions persist as percolate travels through the vadose zone, these dissolved metals (primarily iron, manganese, and arsenic) may reach groundwater and degrade its quality. Additionally, excessive organic loading can elevate groundwater bicarbonate concentrations, contributing to increased EC and TDS.

83. Compliance with this Order includes but is not limited to its requirements to maintain appropriate hydraulic and BOD_5 loading to LAAs, implement field practices such as crop rotations and infiltration within 48 hours, and maintain DO levels in ponds, will minimize the potential for nuisance odors and water quality degradation related to metal constituents. These requirements constitute BPTC

with respect to BOD discharges from facilities covered under this Order and will minimize long-term degradation of receiving waters with respect to iron, manganese, and arsenic that could be mobilized by anoxic conditions in ponds and LAA soils.

Salinity

84. Salts are represented by chloride, sodium, potassium, EC, TDS, and FDS. TDS measures overall salinity and includes both volatile (organic) and fixed (inorganic) fractions. A significant proportion of nut process water can consist of volatile dissolved solids (VDS), which readily break down in the soil. In contrast, the inorganic FDS fraction does not readily degrade and is considered a primary COC. Although plants can take up some FDS, excessive salinity loading from nut process water, supplemental irrigation water, fertilizer, and soil amendments can impair the beneficial uses of groundwater and reduce soil hydraulic conductivity.

85. Potassium is a form of salt and is present in pistachio process water. There is no maximum contaminant level (MCL) or other numeric limit established for potassium, except for overall limits for EC and TDS, to which potassium contributes. Potassium is an essential crop nutrient, and plants will absorb it readily, even in excess of their needs when available. The application of process water high in potassium to crops can be beneficial. The positively charged ion in potassium binds readily soil particles, which increases retention time in the root zone for crop uptake and improves availability for crop uptake.

86. Effective strategies to minimize salt in process water include, but are not limited to, facility source control, chemical substitution and recycling, good housekeeping, solids removal, and other BPTCs.

    a. Source control – Source control is the most effective approach for managing salinity. This involves isolating high FDS waste streams, typically low in volume, and treating or disposing of them separately from the bulk process waterflow.

    b. Chemical substitution – Substituting sodium-based chemical compounds with alternatives can reduce salinity in process water. While replacing sodium-based chemicals with potassium-based ones does not reduce overall salt concentrations, it is still beneficial because potassium is a plant nutrient. When land applied, potassium is readily taken up by plants and soil microbes, reducing its potential to migrate to groundwater compared to sodium.

    c. Chemical recycling and reuse - Reusing chemical solutions in some processes, such as cleaning successive tanks, before discharge reduces the volume of chemicals used and the amount of associated salts. Some chemicals can also be recovered, purified, and reused (e.g., clean-in-place systems, ion exchange, distillation).

d. Good housekeeping – Employee training and implementation of facility cleanup and operational methods can be inexpensive but effective at reducing salt discharges. These methods include dry sweeping instead of wet rinsing, using high-pressure, low flow water nozzles with automatic shutoffs, and directing solids to a collection bin rather than to process water drains.

e. Solids removal – Screening, settling, flotation, and other methods are widely used to remove solids from process water and can substantially reduce the BOD_5, nitrogen, and salt loads.

Nutrients/Nitrates

87. Nut process water generally has low levels of nitrate with higher levels of ammonia and organic nitrogen, which can readily mineralize and convert to nitrate in soil. Excessive nitrogen application to land from process wastewater and other nitrogen-containing materials (i.e., residual solids, fertilizers, etc.) can result in nitrate leaching to groundwater. The federal and state drinking water MCL for nitrate as nitrogen is 10 mg/L. Some nitrogen in process wastewater will be lost to the atmosphere, stored in soil, or taken up by microorganisms or plants when applied to land. Compliance with the conditions in this Order, including the requirements of the NCP, application of wastewater at agronomic rates, and potentially lining process wastewater ponds are intended to protect water quality resources by minimizing overapplication of nitrogen and percolation of nitrate to groundwater. Application rates, combined with supplemental irrigation and nutrient sources, must not exceed crop needs as defined in published resources, determined through site-specific soil and tissue analysis, or certified by a Professional Soil Scientist, Professional Agronomist, or Crop Advisor certified by the American Society of Agronomy or a Technical Service Provider certified in nutrient management in California by the Natural Resources Conservation Service (NRCS). These requirements constitute BPTC with respect to nitrate discharges from Facilities covered under this Order and will minimize long-term degradation of receiving waters with respect to nitrate.

88. Crop uptake values to calculate the agronomic rate are typically determined from plant tissue sampling or published sources. Crop uptake values for common plants can be found in the California League of Food Processors Manual of Good Practice (Brown and Caldwell, 2024) and the Western Fertilizer Handbook[4]. Additionally, the California Department of Food and Agriculture[5] and the University of California Agriculture and Natural Resources[6] have developed

[4] Western Plant Health Association. 2002 Western Fertilizer Handbook. 9th edition.

[5] California Department of Food and Agriculture. 2020. Fertilization Guidelines. November 10, 2020.

[6] University of California, Agriculture and Natural Resources. 2020.

resources that can be used to determine crop uptake values.

89. This Order requires BPTC for the COCs described above to ensure that pollution and nuisance do not occur and that the highest water quality consistent with the maximum benefit of the people of the State will be maintained. Moreover, because higher tier discharges pose a greater threat to water quality than those in lower tiers, this Order imposes Tier-based requirements to assure an appropriate level of control corresponding to the volume and character of particular discharges. This Order does not preclude Dischargers from implementing more than the minimum measures required for each tier.

90. Limited degradation of high-quality groundwaters by some typical waste constituents discharged from Facilities, after implementation of effective source reduction and treatment and control measures, as required by this Order, is consistent with the maximum benefit to the people of the State. The nut industry represents a major component of the State's economy and is one of the Central Valley's most valuable agricultural industries, supporting employment and generating significant tax revenues. Facility operations also contribute to broader economic activity in sectors such as banking, farming, manufacturing, packaging, transportation, advertising, and retail. The economic prosperity of these communities and associated industry is of maximum benefit to the people of the State and provides sufficient justification for allowing the limited groundwater degradation that may occur.

91. Based on the foregoing, the adoption of this Order is consistent with the Antidegradation Policy.

California Environmental Quality Act (CEQA)

92. As the agency responsible for adoption and implementation of this Order, the Central Valley Water Board is the lead agency for purposes of CEQA (Pub. Res. Code, § 21000 et seq.). Accordingly, on [XX Month XXXX] the Central Valley Water Board provided an Initial Study and notice of intent to adopt a negative declaration (ND) (State Clearinghouse No. #XXXXXXXXX) evaluating potentially significant environmental impacts that may arise from adoption and implementation of this Order and corresponding mitigation measures. (Cal. Code Regs., tit. 14, § 15072). In preparing the ND, the Central Valley Water Board provided a notice of opportunity for tribal cultural resource consultation (see Pub. Res. Code, § 21080.3.1). [comments received XX Month XXXX, if applicable]. After consideration of comments received thereon during the public review process, the Central Valley Water Board adopted a Notice of Determination on [XX Month XXXX]. This Order implements all mitigation measures identified in the ND that are within the jurisdiction of the Central Valley Water Board.

93. For purposes of CEQA, this Order is intended to consolidate existing regulations for new and existing Facilities into a single, standardized regulatory order. To the extent that adoption and implementation of this Order will result in physical

environmental changes at existing Facilities, such changes are exempt from CEQA evaluation pursuant to California Code of Regulations, title 14, section 15301. With respect to Facilities that are developed or expanded after the adoption of this Order, a subsequent CEQA evaluation may be a necessary prerequisite for enrollment under this Order if such enrollment could foreseeably result in potentially significant impacts.

Other Regulatory Considerations

Water Code section 13149.2

94. This Order regulates facilities and activities that may impact disadvantaged communities and/or nearby tribal communities and includes alternative pathways for dischargers to come into compliance with applicable water quality objectives (i.e., salinity and nitrates). The Central Valley Water Board has satisfied the outreach requirements set forth in Water Code section 189.7 by conducting outreach in potentially affected disadvantaged and tribal communities through its notice and comment procedures. Pursuant to Water Code section 13149.2, subdivision (c), and as discussed in the following findings, the Central Valley Water Board reviewed readily available information and information raised by interested persons concerning anticipated water quality impacts in disadvantaged and tribal communities resulting from adoption of this Order. The Central Valley Water Board also considered environmental justice concerns within the Board's authority previously raised by interested persons with regard to such impacts.

95. The Central Valley Water Board anticipates that the issuance of this Order will result in water quality impacts within the scope of the Board's authority. Specifically, this Order will authorize the discharge of process wastewater with salinity concentrations potentially above applicable WQOs and total nitrogen concentrations at levels that could cause nitrate in groundwater to be above the WQO of 10 mg/L. While these concentrations exceed (or could result in groundwater exceeding) the applicable WQOs for groundwater designated for AGR (agricultural supply) and/or MUN (municipal and domestic supply), compliance with the following conditions in this Order will mitigate short-term and long-term impacts to underlying groundwater:

    a. Application of process wastewater and fertilizers at agronomic rates.

    b. Minimized use of unlined ponds.

    c. Active participation in the Salt and Nitrate Control Programs.

Human Right to Water

96. Pursuant to Water Code section 106.3, subdivision (a), it is "the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." Although this Order is not subject to Water Code section 106.3, as it

does not revise, adopt or establish a policy, regulation or grant criterion, [see section 106.3, subd. (b)], it nevertheless promotes the policy by requiring discharges to meet maximum contaminant levels (MCLs) for drinking water (excluding salinity and nitrate), which are designed to protect human health and ensure that water is safe for domestic use. For salinity and nitrate, this Order requires compliance with the Salt and Nitrate Control Programs, respectively. Although the Exceptions Policy allows participants in this Program to obtain limited-term exceptions from WQOs for salinity and/or nitrate, these Programs are consistent with the Human Right to Water Policy because their over-arching management goals and priorities include short-term provision of safe drinking water to impacted users and long-term restoration of impacted groundwater basins and sub-basins where reasonable, feasible, and practicable.

Title 27

97. California Code of Regulations, title 27 (Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of wastes to land. This Order, which authorizes discharges of nut hulling and process wastewater and solids to land, is exempt from the prescriptive requirements of Title 27 (see Title 27, § 20090(b), (f)).

Groundwater Wells

98. Existing California Department of Water Resources (DWR) standards for the construction and destruction of groundwater wells, as well as any more stringent standards that are subsequently adopted, shall apply to all monitoring wells used to monitor impacts of wastewater storage or disposal governed by this Order (see Cal. Dept. of Water Res., Water Well Standards: State of California, Bulletin 74-81 (Dec. 1981) and Bulletin 74-90 (June 1991)).

99. Statistical data analysis methods outlined in the United States Environmental Protection Agency's (US EPA) *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance)[7] are appropriate for determining compliance with this Order. Depending on the circumstances, other methods may also be appropriate.

Procedural Matters

100. Pursuant to Water Code section 13263, subdivision (g), the discharge of waste into waters of the State is a privilege, not a right, and adoption of this Order does not create a vested right to discharge waste.

101. This Order is strictly limited in scope to those discharges, activities, and

[7] EPA Office of Resource Conservation and Recovery, Statistical analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance, March 2009

processes described and authorized herein.

102. All of the above information, as well as the information contained within the attachments and incorporated references, was considered by the Central Valley Water Board in prescribing these WDRs.

103. Dischargers, interested agencies, stakeholders, tribes, environmental justice groups, and other interested persons were notified of the Central Valley Water Board's intent to prescribe General WDRs for almond, pistachio, and walnut hulling and processing facilities, and provided an opportunity to submit written views and recommendations at a public hearing. (See Water Code, § 13167.5.)

104. At a public meeting, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated by this Order.

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code sections 13263 and 13267, that the Discharger, its agents, successors, and assignees, in order to meet the provisions contained in Division 7 of the Water Code and regulations and policies adopted thereunder, shall comply with the following.

Dischargers in all tiers shall comply with all prohibitions, specifications, provisions, and other requirements described below unless otherwise noted.

A. Prohibitions

1. Discharge of waste to surface waters or surface water drainage courses is prohibited.

2. Discharge of wastes other than those described in the NOI submitted for coverage under this Order and the resulting NOA issued by the Executive Officer is prohibited.

3. Discharge of waste in a manner or location other than that described in this Order or the Discharger's NOA is prohibited.

4. Discharge of waste classified as "hazardous" (see Cal Code Regs., tit. 23, § 2521) or "designated" (Water Code, § 13173) is prohibited.

5. Discharge of toxic substances into any wastewater treatment system or the LAAs such that biological treatment mechanisms are disrupted is prohibited.

6. Discharge of waste or reuse of waste to land not owned, operated, or otherwise controlled (e.g., via a contract with the landowner) by the Discharger is prohibited.

7. Discharge of domestic wastewater to the process water treatment system, storage and/or disposal ponds, LAAs, or any surface water is prohibited.

8. Discharge of process water to a domestic wastewater treatment system (e.g., septic system) is prohibited.

9. Discharge of regeneration wastewater from water softeners, reverse osmosis, and/or ion exchange systems is prohibited.

Conditional Discharge Prohibitions

10. During Phase I of the SCP, the Discharger is prohibited from discharging salts at concentrations exceeding the salinity numeric value of 700 µmhos/cm (as a monthly average) unless the Discharger is fully participating in the Phase I requirements of the SCP Alternative Permitting Approach (i.e., full participation in the P&O Study).

11. If subject to the NCP, the Discharger is prohibited from discharging nitrate and other forms of nitrogen speciation (e.g., total inorganic nitrogen and total Kjeldahl nitrogen) unless the Discharger is implementing the requirements of the NCP

B. Flow Limitations

1. The flow limitation for each Facility enrolled under this Order will be established in the Facility's site-specific NOA based on the designed treatment capacity (if applicable) and demonstrated storage, and disposal capacity as specified in the stamped engineering design documents and associated water balance included in the Discharger's NOI.

C. Salinity Action Level

1. Dischargers that have selected Path 1 for the Salt Control Program, shall comply with the following:

   a. Where underlying groundwater with AGR beneficial use, the EC of the effluent at the discharge point to an unlined pond and/or to the LAAs shall not exceed **EC of 700 µmhos/cm** (as a monthly average).

   b. Where underlying groundwater with MUN beneficial use, but no AGR beneficial use, the EC of the effluent at the discharge point to an unlined pond and/or to the LAAs shall not exceed **EC of 900 µmhos/cm** (as a monthly average).

2. Dischargers that have selected Path 2 for the Salt Control Program (enrolled in the P&O Study), the discharge at the point of discharge to an unlined pond and/or to the LAAs shall not exceed the Performance-Based

Salinity Action Level, expressed as an EC, TDS, or FDS concentration, calculated as a monthly average. This level is based on the most recent five years of data prior to issuance of the NOA, or the estimated annual average if there is insufficient data to calculate the five-year maximum average. As part of the annual monitoring report requirements specified in the MRP, the Discharger shall calculate the Facility's annual average effluent EC, TDS, or FDS concentration monitored at the discharge point to the LAA and/or unlined pond and compare it to the Facility's performance-based Salinity Action Level.

3. If the Facility exceeds the Salinity Action Level, the Discharger shall submit a *Salt Action Plan* **by 1 April of the year following the exceedance**. The *Salt Action Plan* shall, at a minimum, include the following:

    a. An evaluation of the Facility's salinity effluent levels. This evaluation shall discuss any changes to the source water for the Facility, any increased water conservation efforts (with flow data demonstrating decreased flows), and any other changes to the Facility's collection or treatment system including wastewater reuse within the Facility that could contribute to salinity concentrations.

    b. An evaluation of the potential impact increased salinity concentrations in the discharge could have on underlying groundwater and downgradient users and identify additional control measures to control the salinity in the discharge. If additional time is needed for this evaluation, the *Salinity Action Plan* shall propose a submittal date **no later than October 1st** of the year following exceedance of the Salinity Action Level.

D. Nitrate Control Program Alternative Compliance Projects

1. Dischargers subject to the NCP, who elect to follow the Individual Permitting Approach (Path A) and are unable to meet the requirements of Category 1, 2, or 3 as outlined in Table N-3 (included in the Information Sheet), may be required to development and implement an alternative compliance project the complies with the requirements of the NCP.

E. General Discharge Specifications

1. The Discharger shall ensure all processing, loading, storage, treatment, disposal, and reuse areas are properly managed and controlled with spill prevention, mitigation, and cleanup measures.

2. All waste treatment, storage, disposal, and LAAs shall not create or threaten to create a condition of pollution, contamination, or nuisance as those terms are defined by Water Code section 13050.

3. All discharges shall occur within the permitted waste treatment and containment areas or structures including ponds and LAAs, in the manner specified in the NOI and/or technical report and approved by the Central Valley Water Board.

4. Stormwater that has come in contact with process waste, processing equipment, or processing waste storage areas shall be managed as process wastewater in accordance with this Order.

5. All conveyance, treatment, storage, reuse, and disposal systems shall be designed, sited, constructed, operated and maintained to prevent inundation or washout due to floods with a 100-year return frequency. For design purposes, the most recent Federal Emergency Management Agency (FEMA) approved 100-year base flood elevations may be used.

6. Objectionable odors shall not be perceivable beyond the limits of the property including any wastewater ponds and LAAs at an intensity that creates or threatens to create nuisance conditions.

7. The DO content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive sampling events. Notwithstanding the DO monitoring frequency specified in the MRP, if the DO in the pond(s) is below 1.0 mg/L for any single sampling event and objectionable odors are perceivable beyond the property limits, the Discharger shall notify the Central Valley Water Board and include a specific plan to resolve the low DO results within 30 days of the first date of violation.

8. The Discharger shall maintain the following minimum setbacks (i.e., horizontal distances) unless a different setback is approved by the Central Valley Water Board based on site-specific conditions. Wastewater shall not be applied:

    a. Within 50 feet of any domestic water supply well.

    b. Within 50 feet of a surface water or surface water drainage course.

    c. Within 25 feet of a property line or public right-of-way, unless the irrigation system is managed to prevent runoff or overspray, in which case a minimum setback of 5 feet shall be maintained.

9. All ponds, ditches, and other open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:

    a. An erosion control program shall be implemented to minimize the formation of small coves and irregularities around the perimeter of the water surface.

b. Weeds shall be minimized by controlling water depth, harvesting, or applying herbicides, if necessary.

c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

d. Mosquito breeding shall be minimized by consulting and coordinating with the local mosquito abatement or vector control district and supplementing the above measures as needed.

F. Process Water Pond Specifications

1. Process water ponds shall be managed, operated, and maintained to protect containment integrity, prevent overtopping or structural failure, and prevent damage from burrowing animals. Pond containment damage shall be repaired as soon as possible.

2. New construction or rehabilitation of berms or levees (excluding internal berms that separate or control the flow of water in the pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer or Certified Engineering Geologist.

3. The base of any pond(s)[8] shall be at least five feet above the seasonal high-water table unless a smaller separation is approved by the Central Valley Water Board. A reduced separation distance (minimum two feet) may be approved if compliance with the five-foot separation is infeasible and site-specific conditions indicate a reduced separation will not pose a threat to water quality. Technical justification in support of a reduced separation distance must be provided with the NOI and/or technical report.

4. Ponds shall be designed, constructed, operated, and maintained to protect containment integrity and prevent overtopping and/or structural failures.

5. The Discharger shall land apply wastewater from each pond at the earliest practicable opportunity and shall continuously manage pond levels to minimize both the duration of storage and depth of wastewater.

6. Operating freeboard shall not be less than two feet (measured vertically from the surface of the water to the lowest point of containment) unless a California registered civil engineer certifies (based on design, construction, condition of operation and maintenance) that less freeboard is adequate.

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[8] The lowest physical point within a pond where wastewater collected either within the pond or within the collection system if applicable (e.g., leachate removal and collection system).

7. All ponds shall have sufficient capacity to accommodate process wastewater flows and designed seasonal precipitation. Designed capacity shall be based on the total annual precipitation for the specified storm standard (as discussed below), distributed monthly in accordance with historical rainfall patterns. Prior to the beginning of the wet season (i.e., October 1st), the Discharger shall ensure that sufficient storage capacity is in place to manage wet season flows.

Tier 1 Facility Pond Specifications

8. Tier 1 Capacity

   a. For new or expanding ponds: The Discharger shall be designed to meet a 100-year wet year and 25-year, 24-hour peak storm flow. The Discharger shall demonstrate sufficient pond capacity using a normal year and 100-year wet year water balance. The water balances shall include relevant information that serves as the basis for calculations, such as monthly rainfall and process wastewater flows, crop evapotranspiration, irrigation factors (e.g., leaching fraction, irrigation method, irrigation efficiency), and operational factors (e.g., freeboard).

   b. For existing ponds: The Discharger may continue to operate an existing pond at its present size and present-lined or unlined state provided that Order conditions on operation freeboard and ground separation are met. Details of the existing pond capacity, liner status, and liner characteristics (e.g., pond dimensions and age; liner material, thickness, age, and condition) shall be provided in the NOI and/or technical report. The Discharger shall ensure ponds have available capacity necessary by 1 August of each year to minimize the potential for spills during peak flows from harvest season and precipitation.

9. Tier 1.2 Hydraulic Conductivity:

   a. Tier 1.2 facilities may operate an unlined pond provided that:

      i. Discharge to any pond shall cease and all ponds shall be completely drained by **31 December each year**. Draining includes removal of all water, visible residual solids, and other organic matter.

      ii. Runoff controls are in place to prevent storm water runoff from entering the pond **between 1 January and 30 June of the following year**.

      iii. Depth-to-groundwater below the base of pond (lowest point where wastewater collects) is greater than 25 feet.

iv. Measures such as berms, diversion structures, grading, or other runoff and erosion controls that prevent wastewater from leaving it.

v. Demonstrate contingency measures for extended wet weather.

If the conditions listed in Process Water Pond Specifications F.9.a. above cannot be meet, the Discharger shall be required to line the ponds in order to meet a hydraulic conductivity less than 1 x 10^{-6} cm/s (see Specification F.11.a.) or install a groundwater monitoring well network to monitor groundwater conditions beneath the ponds, unless a demonstration can be made that the pond(s) will be sufficiently protective of groundwater quality and downgradient users, based on wastewater characteristics and site-specific soil and hydrogeologic conditions (e.g., percolation, depth-to-groundwater, groundwater quality, etc.), and that the discharge to the pond will not cause or contribute to groundwater degradation.

Tier 2 and 3 Facility Pond Specification

10. Tier 2 and 3 Pond Capacity

a. New or expanding ponds: Shall be designed to meet the 100-year annual return frequency rainfall and the 25-year, 24-hour peak storm flow. The water balances shall include relevant information that serves as the basis for calculations, such as monthly rainfall and process wastewater flows, crop evapotranspiration, irrigation factors (e.g., percolation, leaching fraction, irrigation method, irrigation efficiency), and operational factors (e.g., freeboard).

b. Existing ponds: The Discharger shall demonstrate that the present pond capacity can comply with the Order conditions on operational freeboard and groundwater separation and meet the 100-year annual return frequency rainfall and the 25-year, 24-hour peak storm flow. A smaller storm design may be allowed if approved by the Central Valley Water Board based on a site-specific Pond Evaluation. The Pond Evaluation shall be submitted with the NOI and/or technical report and describe how the process wastewater system will be managed and operated to prevent overtopping or runoff of process wastewater considering: rainfall, pond water levels, site drainage, and runoff controls.

11. Tier 2 and 3 Hydraulic Conductivity:

    a. New or expanding ponds: The Discharger shall ensure new or expanding ponds are designed, constructed, and maintained to meet a hydraulic conductivity standard of $1x10^{-6}$ cm/s or less using one of the following:

        i. A compacted clay liner, with a minimum clay thickness of two feet.

        ii. A Portland cement concrete liner, designed to minimize cracking and infiltration.

        iii. A synthetic liner, consisting of a 40 thousandth of an inch (mil) synthetic geomembrane or a 60-mil high-density polyethylene liner installed over a prepared base or a secondary clay or concrete liner.

        iv. An equivalent engineered alterative specified in the NOI and/or technical report approved by the regional water board.

    b. Existing ponds: The Discharger may continue to operate an existing pond in its present lined or unlined state provided all other requirements of this Order are met. The Central Valley Water Board may require groundwater monitoring or compliance with liner requirements if an unlined pond is determined to pose a threat to water quality. If groundwater monitoring shows evidence that percolation from an unlined pond is causing or contributing to groundwater degradation, the Discharger may be directed to comply with the pond liner requirements within a time period **not to exceed ten years**.

    c. An exemption from the lining requirements in Process Water Pond Specification F.11.a. above may be granted by the Central Valley Water Board, on a case-by-case basis, if it can be demonstrated that pond lining is not necessary to prevent degradation of underlying groundwater in a manner that is inconsistent with the requirements this Order. The Discharger requesting the exemption must demonstrate that not lining the new or expanding pond(s) is adequate based on site-specific hydrogeologic conditions, wastewater characteristics, and the potential for impacts to groundwater quality or potentially impacted users.

New Pond Construction

12. Prior to the construction of a new or expanding lined pond per Process Water Pond Specification F.11.a. above, the Discharger shall submit a

Pond Design Report prepared by an appropriately licensed professional. The *Pond Design Report* shall include the following:

a. Design plans and specifications for the construction and lining of the pond(s) including a schedule for completion.

b. A geotechnical investigation of the area around the proposed ponds, including boring logs, soil assessment, and analysis of depth to first-encountered groundwater.

c. A Construction Quality Assurance (CQA) Plan that discusses how the subgrade and liner will be tested to ensure the liner is properly installed, The CQA Plan should also discuss any leak detection system for the liners integrity testing (e.g., action leak rate), and the ponds design life.

d. An Operations and Maintenance (O&M) Plan for the pond(s). The O&M Plan must include:

   i. Procedures for cleaning out the pond, including frequency and methods.

   ii. Procedures for monitoring liner integrity to ensure the pond liner remains in good condition.

   iii. Methods for detecting liner failure and establishing criteria for timely repairs. Where applicable, this should include developing an action leakage level for each pond equipped with a leachate detection system.

Pond Liner Performance Integrity Testing

13. Five-Year Pond Performance Integrity Testing: Lined ponds shall be tested for leaks at least **once every 5 years** in accordance with the specifications outlined in the separately issued MRP unless it is equipped with a leachate collection and recovery system (LCRS). A technical report of the evaluation shall be submitted to the Central Valley Water Board within 90 days of test completion. This periodic leak testing shall begin 5 years after NOA issuance, pond liner installation, a previous performance test, or decommissioning of a groundwater monitoring well network at the pond, whichever is later. The performance test, technical report of results, and associated liner modifications or repairs may be required to be completed by or under the supervision of an appropriately qualified professional in accordance with Business and Professions Code sections 6735, 7835, and 7835.1.

14. In lieu of conducting a pond performance test, the performance test requirements may be satisfied using groundwater monitoring data from an

onsite, active groundwater monitoring well network and/or leak collection system designed for the pond to demonstrate that the pond has not caused significant groundwater degradation. This evaluation shall be provided in the next regularly scheduled Annual Report.

Pond Sludge

15. Within **90 days** of any planned pond sludge removal, the Discharger shall submit and implement a *Pond Sludge Management Plan*. At a minimum, the plan shall describe the following:

    a. Estimate the amount of sludge that will be generated.

    b. Describe how sludge and supernatant will be stored and disposed of to protect groundwater quality.

    c. If sludge is subject to further treatment, describe the treatment and storage requirements.

    d. Describe cleaning of storage vessels and the treatment and disposal of the residuals. If drying of residuals is planned, describe how that will be performed to prevent nuisance odors, prevent vectors, and protect groundwater quality.

    The *Sludge Management Plan* shall be maintained at the treatment facility and shall be presented to Water Board staff upon request or as required by the NOA.

G. Pond Groundwater Monitoring Requirements

Tier 1.1 Facility Pond Monitoring Requirements

1. Tier 1.1 Facilities qualify for an exemption from groundwater monitoring if it can be demonstrated that the following criteria are met:

    a. The pond maintains a minimum of five feet separation between the pond bottom and the seasonal high groundwater table.

    b. The Discharger employs operational measures that prevent excessive organic loading, solids buildup, or conditions that could increase seepage potential.

Tier 1.2, 2 and 3 Facility Pond Monitoring Requirements

2. Tier 1.2 Facilities may qualify for an exemption from groundwater monitoring if it can be demonstrated that the following criteria are met.

    a. Depth-to-groundwater below the base of the pond (i.e., lowest point where wastewater collects) is greater than 25 feet.

b. Site's hydrogeologic conditions do not indicate vulnerability to groundwater degradation, including absence of shallow perched zones, preferential pathways, or exiting water quality impairments.

c. The Discharger employs operational measures that prevent excessive organic loading, solids buildup, or conditions that could increase seepage potential.

3. Tier 2 and 3 Facilities may qualify for an exemption from groundwater monitoring provided all of the following criteria are met:

a. Depth-to-groundwater below the base of the pond (i.e., lowest point where wastewater collects) is greater than 25 feet.

b. The engineered liner meets the criteria specified in Process Water Pond Specification F.11.a. above.

c. The Discharger employs operational measures that prevent excessive organic loading, solids buildup, or conditions that could increase seepage potential.

d. The ponds are well managed and operate within the available pond capacities without process water spills (e.g., overtopping the pond, berm failures, flood inundation) and all other requirements of this Order are met.

Pond Groundwater Monitoring Exemption

4. The groundwater monitoring exemption may be revoked by the Central Valley Water Board if the facility no longer meets the exemption criteria; the ponds are determined to have had or have the potential for frequent or significant spills; or the facility has had frequent or significant Order violations related to discharges offsite, discharges to surface waters or stormwater drainage courses, or non-reporting of violations. If the exemption is revoked, the Discharger shall comply with the groundwater monitoring well installation requirements and compliance schedule in the Technical Provisions section.

5. Facilities shall conduct groundwater monitoring using an onsite monitoring well network designed to assess the potential impact of operating the pond unless the Discharger qualifies for a groundwater monitoring exemption. The installation of any new groundwater monitoring well shall comply with the requirements in the Technical Provisions section.

H. Land Application Area Specifications

1. Tier 1.1 and 1.2 Facilities: Application of waste constituents (i.e., process water and solids) shall meet the following:

a. Land application of up to 2 million gallons (mgal) of process water per year for irrigation of landscaping or crops with a minimum of 1.0 acre of LAA per 50,000 gallons of process water.

b. Land application of up to 15 tons of residual solids per acre per year for use as a soil amendment.

2. Tier 2 and 3 Facilities: Application of waste constituents (i.e., process water and solids) to the LAAs shall be at agronomic rates as demonstrated in a *Nutrient and Wastewater Management Plan* (NWMP). The NWMP shall identify each available LAA unit and demonstrate how nutrient and hydraulic loading will be managed to ensure application at reasonable agronomic rates. At a minimum, the NWMP must include:

a. Procedures for monitoring Facility operations and discharge;

b. Practicable measures to ensure reasonable even application of wastewater, including how the Discharger will evenly apply wastewater across the entire LAA;

c. A detailed map identifying the various LAA units to facilitate tracking annual wastewater applications and nutrient loadings;

d. An action plan to deal with objectionable odors and/or nuisance conditions (i.e., ponding, flies, etc.);

e. Supporting data tables and calculations (include examples) that will be used to monitor monthly nitrogen and salt loading from process wastewater, supplemental irrigation water, solids applications, and organic and synthetic fertilizers; and

f. Management practices including routine maintenance procedures, timing for planting and harvesting of crops, irrigation controls to prevent runoff, and forecasting wastewater applications based on constituent load data (e.g., soil available nutrients, tissue or petiole testing, etc.), where available.

General Land Application Area Specification

3. Crops shall be grown on the LAAs. Crops shall be selected based on nutrient uptake, consumptive use of water, and irrigation requirements to maximize uptake of nutrients.

4. LAAs shall be designed and managed to promote uniform water distribution and prevent runoff, ponding, or erosion. All irrigation runoff (i.e., tailwater) shall be confined to the LAAs or returned to the process wastewater system to prevent runoff onto adjacent properties not owned or controlled by the Discharger and discharges to any surface waters,

surface water drainage course, or stormwater drainage system. Site controls such as containment berms, ditches, or tailwater collection systems may be necessary to reduce the potential for off-site discharges.

5. Dischargers shall ensure that all water applied is distributed uniformly and in a manner that minimizes ponding and infiltrates completely within **48 hours** following application.

6. Application of waste constituents (i.e., process wastewater and solids) shall be at reasonable agronomic rates as defined in this Order. The annual nitrogen load to the LAAs, including the nutritive value of process wastewater, supplemental irrigation water, solids, and organic and chemical fertilizers shall not exceed crop uptake value. Uptake values used to calculate crop agronomic rates shall be determined using, at a minimum, one of the following methods:

    a. Analytical results from representative tissue samples collected from the crop.

    b. Crop uptake values specified by one of the following sources:

        i. California League of Food Processors, 2024, *Manual of Good Practice for Land Application of Food Processing/Rinse Water*.

        ii. Western Plant Health Association, 2002, *Western Fertilizer Handbook*, 9th edition.

        iii. UC Davis Fruit and Nut Research and Information Center

    c. Discharger-proposed uptake value (e.g., from a published reference) that has been acknowledged by the Central Valley Water Board.

7. Hydraulic loading of process water and supplemental irrigation water shall be managed to:

    a. Provide water only when water is needed and in amounts consistent with crop needs.

    b. Maximize crop nutrient uptake.

    c. Maximize breakdown of organic waste constituents in the root zone.

    d. Minimize the percolation of water constituents below the root zone (i.e., deep percolation).

The Central Valley Water Board recognizes that some leaching of salts is necessary to manage salt in the root zone of the crops. Leaching shall be managed to minimize degradation and maintain or reduce, to the extent practicable, concentrations of saline constituents and nitrate (and other forms of nitrogen speciation) in receiving waters.

8. Average BOD_5 loading to the LAAs shall not exceed 100 lb/ac/day over the course of any discharge cycle (i.e., irrigation cycle). BOD_5 loading shall be determined using a moving average of the three most recent BOD_5 process wastewater sample results The Discharger may request authorization for a higher loading rate by submitting an *Organic Loading Study Technical Report* with the NOI and/or Technical Report demonstrating that a higher rate can be applied without causing groundwater impacts or nuisance odors. The Organic Loading Study Technical Report shall evaluate BOD loading effects at rates greater than 100 lb/ac/day, including, but not limited to, odor generation, changes to soil conditions, and percolation to groundwater. The evaluation shall incorporate groundwater monitoring data and assess potential for eliminating reducing conditions within the LAAs.

9. Process solids shall be applied uniformly and incorporated into the soil within **72 hours** and shall not cause or contribute to nuisance conditions (i.e., vector breeding or odors).

10. If process solids applied to land contain free liquids, the Discharger shall ensure that all liquid is absorbed into the soil within **12 hours** of application and that no liquid runs off the LAAs.

11. Process water and solids shall not be applied to the LAAs when soils are saturated (e.g., during or after significant precipitation events).

I. Land Application Area Groundwater Requirements

Tier 1.1 and 1.2 LAA Groundwater Monitoring Requirements

1. Tier 1.1 and 1.2 Facilities: May qualify for an exemption from LAA groundwater monitoring provided all of the following criteria are met.

    a. Siting conditions:

        i. Depth-to-groundwater underlying the LAAs is at least 25 feet below ground surface.

        ii. The nearest drinking water well is located 0.5 mile or more from the LAAs.

iii. The nearest surface water body including ephemeral streams and drainage ditches is located 0.5 mile or more from the LAAs.

b. The LAA(s) is well managed, and operations comply with the loading limits and all other requirements of this Order.

Tier 2 and 3 LAA Groundwater Monitoring Requirements

2. Tier 2 and 3 Facilities: Groundwater monitoring shall be conducted using an onsite monitoring well network designed to assess the potential impact of applying nut hulling and processing waste to the LAAs unless the Discharger qualifies for a groundwater monitoring exemption. The installation of any new groundwater monitoring well shall comply with requirements in the Technical Provisions section.

LAA Groundwater Exemption

3. To apply for an LAA groundwater monitoring exemption, Dischargers shall include with their NOI a clearly stated request for a groundwater monitoring exemption and technical justification demonstrating that the exemption is appropriate (i.e., groundwater elevation data, drinking water well and surface water body locations, and hydraulic loading rate and/or groundwater quality data to demonstrate no impacts to groundwater quality).

   a. For facilities that lack sufficient operational data to determine loading rates, the Discharger may request a temporary postponement of the groundwater monitoring requirements to allow for collection of appropriate data. The postponement may extend for no more than **18 months** from NOA issuance unless otherwise stated by the Central Valley Water Board. By the end of this period, groundwater monitoring wells shall be installed and a MRP fully implemented.

4. Groundwater monitoring exemptions may be revoked if the Central Valley Water Board determines that a facility no longer meets the exemption criteria; the facility has had frequent or significant violations related to discharges offsite, to surface waters, or to stormwater drainage courses, or non-reporting of violations. If an exemption is revoked, the Discharger shall comply with the groundwater monitoring well installation requirements and compliance schedule in the Technical Provisions section.

J. Groundwater Limitations

Release of waste constituents from any treatment unit, storage, LAA, or disposal location associated with the Discharger's facility shall not cause or contribute to

groundwater containing constituent concentrations in excess of the concentrations specified below or background quality, whichever is greater:

1. Constituents in concentrations that exceed either the Primary or Secondary MCLs established in California Code of Regulations, title 22, excluding salinity for Dischargers participating in and in compliance with SCP Alternative Permitting Approach requirements, and/or excluding nitrate for Dischargers that have obtained an exception from implementation of the WQO for nitrate vis the NCP[9].

2. Taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses (e.g., by creating off-tastes and/or odor, producing detrimental physiological responses in human, plant, animal, or aquatic life [i.e., toxicity]).

K. Solids Disposal Specifications

1. For the purpose of this Order, process solids include “green waste” (i.e., leaves, stems, culls, and branches removed during the pre-cleaning process) and “residual solids” (i.e., solid, semisolid, and liquid organic matter removed from the process wastewater during the packing or treatment process).

2. Residual solids shall be removed from screens, vaults, and ponds as needed to ensure optimal operation, prevent nuisance conditions, and maintain adequate storage/treatment capacity.

3. Collected process solids shall be controlled and contained in a manner that minimizes leachate formation and minimizes infiltration of waste constituents into soils in a mass or concentration that will violate the Groundwater Limitations of this Order. At a minimum:

    a. Stored solids shall be protected from precipitation (e.g., containerized, covered with tarps, stored under roofed areas) or stored in areas protected from stormwater runon or runoff (e.g., bermed or graded to direct stormwater away from stockpiles) to minimize leachate formation or washout or inundation due to floods within a 100-year return frequency.

    b. Solids shall be stored and managed such that free draining liquid is contained (e.g., outdoor pad with an impervious surface, bermed,

[9] Dischargers may obtain limited-term exemptions from the Groundwater Limitations for salt and/or nitrate pursuant to the Salt and Nitrate Control Programs, respectively. Any such exemption, and associated conditions and timelines, will be described in the Discharger’s NOA.

and controlled with a leachate collection and return system), directed to a containment structure (e.g., process water pond), or otherwise similarly controlled and contained to prevent leachate runoff and minimize infiltration. Onsite composting and reuse of process solids are encouraged.

c. If the existing solids storage area or solids management practices are determined to pose a threat to water quality, the Central Valley Water Board, in the NOA, may require existing facilities that have historically stored and dried their solids directly on the ground to modify their solids drying areas such that the solids are placed on an impervious surface within five years of issuance of the NOA.

d. Stored solids shall be managed to prevent nuisance conditions (e.g., stored in covered containers, dried and moved offsite as soon as practicable, or promptly land applied).

e. Solids stored onsite shall only be stored temporarily. Prior to 1 August of each year, all solids generated from the previous harvest season that have been temporarily stored onsite shall be disposed of off-site at an appropriate permitted facility.

4. Free draining liquid from process solids shall be managed as process water in accordance with this Order.

5. Solids removed from the liquid waste or removed from ponds, storage tanks, and settling tanks that will not and/or cannot be used agronomically onsite shall be properly disposed of in a manner consistent with California Code of Regulations, title 27, division 2, subdivision 1. Removal for reuse as animal feed, biofuel feedstock, or offsite land disposal (i.e., landfills, composting facilities, or soil amendment sites operated in accordance with valid WDRs issued by a regional water quality control board) will satisfy this specification.

6. For authorization of onsite land application of process solids, the Discharger shall submit a *Solids Management Plan* with the NOI and/or technical report. The *Solids Management Plan* shall describe how organic solids generated at the facility will be managed, stored, handled, and land applied (i.e., at an agronomic rate) in a manner protective of water quality and consistent with the requirements of this Order. The Plan shall include best management practices to prevent leachate, runoff, or nuisance conditions.

L. General Provisions

1. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, or protect the Discharger

from liabilities under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.

2. The prohibitions, limitations, specifications, and provisions of this Order are severable. If any provision of this Order is held invalid, the remainder of this Order shall not be affected.

3. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

   a. Violation of any term or condition contained in this Order;

   b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;

   c. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge;

   d. A material change in the character, location, or volume of discharge.

4. Before making a change in tier classification or material change in the character, location, or volume of discharge, the Discharger shall submit a new NOI and Technical Report in accordance with Water Code section 13260, **at least 140 days** with the Central Valley Water Board. A material change includes, but is not limited to, the following:

   a. An increase in area or depth to be used for liquid and solid waste disposal beyond that specified in the original NOI and NOA.

   b. A significant change in disposal method, location or volume, e.g., change from land disposal to land treatment.

5. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Central Valley Water Board. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.

6. The Discharger shall take all reasonable steps to minimize any adverse impact to the waters of the state resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance.

7. The Discharger shall maintain in good working order and operate as efficiently as possible any facility, control system, or monitoring device installed to achieve compliance with the Order. Proper operation and maintenance also include adequate laboratory controls and appropriate

quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.

8. The Discharger shall permit representatives of the Central Valley Water Board, upon presentations of credentials, to:

    a. Enter premises where wastes are treated, stored, or disposed of and facilities in which any records are kept,

    b. Copy any records required to be kept under terms and conditions of this Order,

    c. Inspect at reasonable hours, monitoring equipment required by this Order, and

    d. Sample, photograph, and video tape any discharge, waste, waste management unit, or monitoring device.

9. For any electrically operated equipment at the site, the failure of which would cause loss of control or containment of waste materials, or violation of this Order, the Discharger shall employ safeguards to prevent loss of control over wastes. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.

10. The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order shall not be a defense for the Discharger's violations of the Order.

11. The Discharger shall implement and maintain a plan for preventing and controlling accidental discharges, and for minimizing the effect of such events. This plan shall:

    a. Identify the possible sources of accidental loss or leakage of wastes from each waste management, treatment, or disposal facility.

    b. Evaluate the effectiveness of present waste management/treatment units and operational procedures and identify needed changes of contingency plans.

    c. Predict the effectiveness of the proposed changes in waste management/treatment facilities and procedures and provide an implementation schedule containing interim and final dates when changes will be implemented.

The Central Valley Water Board, may request to review the plan to establish conditions that it deems necessary to control leakages and minimize their effects.

12. If, in the opinion of the Central Valley Water Board, the Discharger fails to comply with provisions of this Order, the Central Valley Water Board may refer this matter to the Attorney General for judicial enforcement, issue a complaint for administrative civil liability, or take other enforcement actions. Failure to comply with this Order may result in significant civil liabilities and criminal penalties provided by the Porter-Cologne Water Quality Control Act. The Central Valley Water Board reserves their right to take any enforcement actions authorized by law.

13. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

14. The Discharger shall comply with all conditions of this Order and the MRP, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action, imposition of civil monetary liability, or revision or rescission of this Order.

15. **At least 120 days** prior to termination or expiration of any lease, contract, or agreement authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing describing the situation and the measures that have been, or are being, or will be taken to assure full compliance with this Order and NOA.

16. In the event of any change in control or ownership of the facility and/or LAAs enrolled under this Order, the Discharger shall immediately notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

17. In the event of any planned change in control or ownership of a facility and/or LAAs enrolled under this Order, the succeeding owner or operator shall submit a Form 200 requesting transfer of Order coverage **at least 90 days** before commencing operation of the facility. The request shall contain a statement that complies with the signatory paragraph of the

Reporting Provisions section and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements and a violation of the California Water Code. The transfer request shall be submitted for consideration. Upon review and approval of the request, the Central Valley Water Board will issue an updated NOA documenting the change in Discharger(s).

18. A copy of this Order and its attachments, including the separately issued NOA and MRP, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

19. The Discharger shall pay an annual fee to the State Water Board in accordance with the fee schedule listed in California Code of Regulations, title 23, section 2200. Fees are based on threat to water quality and complexity ratings. The fee schedule is available at the State Water Board fees website [https://www.waterboards.ca.gov/resources/fees/]

M. Technical Provisions

1. For existing Facilities: Within **90 days** of NOA issuance, the Discharger shall complete any Facility infrastructure upgrades, including installation of any flow meters (if applicable) and/or sampling ports, gages, etc., necessary to comply with all sampling and monitoring requirements as outlined in the separately issued MRP.

2. The Discharger shall comply with the applicable provisions of the Salt and Nitrate Control Programs adopted in Resolution R5-2018-0034 (as revised per Resolution R5-2020-0057) to address ongoing salt and nitrate accumulation in the Central Valley developed as part of the CV-SALTS initiative. Specific requirements and deadlines for the Nitrate Control Program will be incorporated in the NOA based on the selected Path and applicable groundwater basin/sub-basin.

N. Monitoring Provisions

1. **Tiers 1.2, 2, and 3**. If required to implement groundwater monitoring around its LAAs and/or an unlined pond(s), the Discharger shall comply with the following schedule for installation and development of a groundwater monitoring well network.

Table 6. Compliance Schedule for Groundwater Monitoring Well Installation

Task	Description	Due Date
N.1.a	Submit a *Monitoring Well Installation Work Plan* for Executive Officer concurrence consistent with the requirements in Attachment F.– At a minimum the monitoring well network shall include at least one upgradient and two downgradient monitoring wells around the LAAs and/or process wastewater ponds (if required). The work plan shall contain site information, well locations and rationale, drilling and installation activities, monitoring well design, well development details, well survey details, a soil sampling plan (if appropriate), a schedule for completing the work, and a proposed Sampling and Analysis Plan (SAP). The SAP shall contain the groundwater sampling plan, standard operating procedures for equipment decontamination, well purging, and water level measurements, analytical methods and reporting limits, sampling techniques, sample handling and transport, and a chain of custody example	**Within 120 days** following issuance of the NOA
N.1.b	Complete well installation	**Within 9 months** following approval of the Work Plan
N.1.c	Submit a *Monitoring Well Installation Report* – At a minimum shall include boring logs, well construction details, well survey results, field notes, and initial sampling results.	**Within 90 days** following completion of well installation activities

2. The Discharger shall comply with the MRP issued with the NOA and with any revisions thereto as approved by the Central Valley Water Board. A model MRP is provided in **Attachment E**, which is hereby attached and made a part of this Order. When issuing the NOA, the Central Valley Water Board may modify the model MRP as appropriate based on site-specific conditions. The Discharger shall submit self-monitoring reports no later than the submittal dates specified in the MRP.

3. The Discharger shall report results of any monitoring done more frequently than required by the MRP in the next regularly scheduled monitoring report. Values obtained through additional monitoring shall be used in calculations as appropriate.

4. The Discharger shall report all noncompliance issues in the next regularly scheduled monitoring report in addition to any other reporting or notification requirements.

5. The Discharger shall furnish, within a reasonable time, all information requested by the regional water board to determine whether cause exists for modifying, revoking, reissuing, or terminating Discharger coverage under this Order.

6. All analyses shall be made in accordance with the latest edition of: (1) *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA 600 Series) and (2) *Test Methods for Evaluating Solid Waste* (SW 846-latest edition). The test method may be modified subject to application and approval of alternate test procedures under the Code of Federal Regulations (40 CFR 136).

7. Chemical, bacteriological, and bioassay analysis shall be conducted at a laboratory certified for such analyses by the Environmental Laboratory Accreditation Program. In the event a certified laboratory is not available to the discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Water Board staff. The Quality Assurance-Quality Control Program must conform to EPA guidelines or to procedures approved by the Board.

   Unless otherwise specified, all metals shall be reported as Total Metals.

8. The Discharger shall retain records of all monitoring data and information, including calibration and maintenance records, original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a **minimum of 3 years** from the date of the sample, measurement, report, or application. This period may be extended during any unresolved litigation regarding this discharge or when requested by the Executive Officer. The Discharger shall furnish, upon request, copies of records required to be kept by this Order. Record of monitoring information shall include:

   a. the date, exact place, and time of sampling or measurements,

   b. the individual(s) who performed the sampling of the measurements,

   c the date(s) analyses were performed,

   d. the individual(s) who performed the analysis,

e. the laboratory which performed the analysis,

f. the analytical techniques or methods used, and

g. the results of such analyses.

9. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed MRP shall be properly maintained and calibrated as recommended by the manufacturer to ensure their continued accuracy.

10. The Discharger shall maintain a written sampling program sufficient to assure compliance with the terms of this Order. Anyone performing sampling on behalf of the Discharger shall be familiar with the sampling plan.

11. The Discharger shall construct all monitoring wells to meet or exceed the standards stated in the Department of Water Resources Bulletin 74-81, and subsequent revisions, and shall comply with the reporting provisions for wells required by Water Code sections 13750 through 13755.22.

O. Reporting Provisions

1. In the event the Discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Discharger shall notify the appropriate Central Valley Water Board office (via telephone or email) as soon as it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within 15 days** of the incident unless otherwise directed by the Board. The written notification shall state the nature, time and cause of noncompliance, and shall include a timetable for corrective actions. Current phone numbers for all three Regional Board offices may be found on the internet at https://www.waterboards.ca.gov/centralvalley/about_us/contact_us/.

2. A Discharger causing or permitting any hazardous substance or sewage to be discharged in or on any waters of the state or discharged or deposited where it is, or probably will be, discharged in or on any waters of the state is required to notify California Office of Emergency Services <https://www.caloes.ca.gov/> (Water Code, § 13271).

3. All reports shall be signed by persons identified below:

   a. For a corporation: by a principal executive officer of at least the level of senior vice-president.

b. For a partnership or sole proprietorship: by a general partner or the proprietor.

c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.

d. A duly authorized representative of a person designated in 3a, 3b or 3c of this requirement if;

i. the authorization is made in writing by a person described in 3a, 3b or 3c of this provision;

ii. the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a waste management unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

ii. the written authorization is submitted to the Water Board:

4. Any person signing a document under this Section 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 the 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."

5. In accordance with Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgements 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 technical report submitted by the Discharger shall bear the professional's signature and stamp.

6. Technical and monitoring reports specified in this Order are requested pursuant to Section 13267 of the Water Code. Failing to furnish the reports by the specified deadlines and falsifying information in the reports,

are misdemeanors that may result in assessment of civil liabilities against the Discharger.

ENFORCEMENT

If, in the opinion of the Executive Officer, the Discharger(s), Responsible Parties, or Parties named in this order fail to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to $10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

ADMINISTRATIVE REVIEW

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. To be timely, the petition must be received by the State Water Board by 5:00 pm 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 pm on the next business day. The law and regulations applicable to filing petitions are available on the State Water Board website (http://www.waterboards.ca.gov/public_notices/petitions/water_quality). Copies will also be provided upon request.

ATTACHMENT A. ACRONYMS AND GLOSSARY

Acronyms

Term	Definition
Ag	agricultural water quality goal
APN	Assessor's parcel number
Basin Plant	Water Quality Control Plan
bgs	Below ground surface
BOD_5	[5-day] biochemical oxygen demand at 20 degrees Celsius
BPTC	best practical treatment or control
BMP	best management practices
CCR	California Code of Regulations
CEQA	California Environmental Quality Act, Public Resources Code section 21000 et seq
CIP	clean-in place
CIMIS	California Management Information Systems
COC	Constituents of concern
CV-SALTS	Central Valley Salinity Alternatives for Long-Term Sustainability
DO	dissolved oxygen
DWR	Department of Water Resources
EC	electrical conductivity
EIR	Environmental Impact Report
ELAP	State Water Resources Control Board's Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
FDS	fixed dissolved solids
FEMA	Federal Emergency Management Agency
General Order	general waste discharge requirements order
ILRP	Irrigated Lands Regulatory Program

Term	**Definition**
IS	Initial Study
LAA(s)	land application area(s)
MCL	maximum contaminant level
MDL	method of detection level
MRP	Monitoring and Reporting Program
msl	mean sea level
MUN	municipal
MW	monitoring well
N	nitrogen
NA, N/A	not applicable or not available
ND	not detected or non-detect
No.	Number
NOA	Notice of Applicability
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
OAL	Office of Administrative Law
P&O Study	Prioritization and Optimization Study of the Salt Control Program
pdf	portable document format
PQL	practical quantification limit
RL	reporting limit

Term	**Definition**
RWD, ROWD	Report of Waste Discharge
SAP	sampling and analysis plan
sMCL	secondary maximum contaminant level
SNMP	salt and nutrient management plan
TDS	total dissolved solids
Title 22	California Code of Regulations, Title 22
Title 23	California Code of Regulations, Title 23
Title 27	California Code of Regulations, Title 27
TKN	total kjeldahl nitrogen
TOC	Total organic carbon
TSS	total suspended solids
USEPA	United States Environmental Protection Agency
WDRs	Waste Discharge Requirements
WQOs	Water Quality Objectives

Unit Measurements:

Unit Measurement	**Definition**
ac	acres
gal	gallons
gpd	gallons per day

Unit Measurement	**Definition**
gpy	gallons per year
in/ac/yr	inch/acre/year
lb	pounds
lb/ac/day	pounds per acre per day
lb/ac/mo	pounds per acre per month
lb/ac/yr	pounds per acre per year
µg/L	micrograms per liter
µmhos/cm	micromhos per centimeter
MG[D]	million gallons [per day]
MGY	million gallons per year
mg/L	milligrams per liter

Glossary

Term	**Definition**
Agronomic rate	The rate of application of nutrients in amounts necessary to satisfy the plant nutrient demand (crop uptake) while minimizing the movement of nutrients below the plant root zone, considering the crop, soil, climate, irrigation method and efficiency, leaching fraction, and factors that impact plant available nitrogen (e.g., nitrogen loss from denitrification, volatilization, and soil storage). Application at an agronomic rate must account for nutrient loading from all sources, e.g., process water, supplemental water, process solids, fertilizers, compost, and soil amendments.

Term	**Definition**
Antidegradation Policy	Statement of Policy with Respect to Maintaining High Quality Waters in California, State Water Board Resolution 68-16
Annually, 1/Year	Samples shall be collected at least once per calendar year. Unless otherwise specified or approved, samples shall be collected in October.
Aquifer	Groundwater that occurs in a saturated geologic unit that contains sufficient permeability and thickness to yield a significant quantity of water.
Bi-weekly, 2/Week	Samples shall be collected at least once every two weeks.
Bypass	Intentional diversion of waste from any portion of a treatment system
Continuous	Specified parameter shall be measured by a meter continuously
Daily, 1/Day	Samples shall be collected at least once every day except weekends or holidays
Daily maximum concentration	The highest measurement made on any single discrete sample or composite sample
Daily maximum discharge	total discharge by volume during any day
24-hr composite	Samples shall be flow-proportioned composite consisting of at least eight aliquots over a 24-hour period.
Day	Calendar day.
Degradation	A measurable adverse change in water quality.
Discharge	Application or release of waste to land, surface water, or groundwater.

Term	**Definition**
Existing	Facility or system was in operation on or before the adoption date of this General Order.
Expansion	Any significant increase in production, storage capacity, or the acquisition of more acreage for reuse of process wastewater and solids. Expansion does not include installation or modification of facilities or equipment to achieve compliance with the requirements of this General Order so long as the modification or installation is sized to accommodate the existing capacity.
Facility	The structures and/or equipment used for nut hulling and processing subject to this General Order.
Field	The portion of the land application area broken into manageable units, which does not include non-farmable surfaces such as roads, perimeter ditches, and/or structures.
Flow-weighted average	Average constituent concentration determined on a flow-proportioned basis. Calculated as the sum of the constituent concentration (in mg/L) multiplied by the flowrate (in gallons per day [gpd]) collected across multiple periods of time (e.g., every month), then divided by the total volume discharged across the entire period (e.g., annual total).
Freeboard	The elevation difference between process wastewater (liquid) level in a pond and the lowest point of the pond embankment which would allow overflow or an uncontrolled release.

Term	Definition
General Minerals	Analysis for General Minerals shall include, at a minimum, the following: alkalinity as $CaCO_2$, bicarbonate as $CaCO_2$, carbonate as $CaCO_2$, arsenic (dissolved), boron (arsenic), calcium, chloride, hardness, iron (dissolved), magnesium, manganese (dissolved), nitrate as nitrogen, phosphate, potassium, sodium, and sulfate. General Minerals analyses shall be accompanied by documentation of cation/anion balance.
Grab sample	Any sample collected in less than 15 minutes
Infiltration	Complete percolation of wastewater into soil such that no visible standing water is observed.
Irrigation cycle (or discharge cycle)	Sum of application days (wetting period) plus subsequent dry days between successive applications. .
Land Application Area (LAA)	Land under control of the Discharger, whether owned, rented, or leased to which process wastewater or solids may be applied for reuse of nutrients. This includes property owned by a third party where agreements with the Discharger require the third party to accept process wastewater at a time determined by the Discharger.
Loading rate	The loading rate (in pounds per acre [lb/ac]) is calculated as the constituent concentration (in mg/L) multiplied by the irrigated volume in one day (in million gallons [MG]) and multiplied by the conversion factor 8.34, then divided by the irrigated area (in acres).
Loading rate, cycle average	Average loading rate across one irrigation cycle. Calculated as the sum of the daily loading rates (in lb/ac) in an irrigation cycle divided by total duration of the irrigation cycle (in days).
Loading rate, instantaneous	Loading rate on the day of application.
Monthly, 1/Month	Samples collected at least once per month

Term	**Definition**
2/Month	Samples shall be collected twice per month during non-consecutive weeks.
Monthly average concentration	the arithmetic mean of measurements made during the month.
New or expanding	Facility or system was constructed and/or began operations after the adoption date of this General Order.
Nuisance	Defined in Water Code section 13050(m) as "…anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or a considerable number or persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal or wastes.
Nutrient	Any element taken in by a plant which is essential to its growth and production.
Off-site Discharge (or runoff)	The discharge or release of waste beyond the boundaries of the Facility, land application area, or to water bodies that run through these areas.
Overflow	Intentional or unintentional diversion of flow from the collection, treatment, storage, land application areas, or conveyance systems, including pumping facilities.
Pollution	Defined in Water Code section 13050(l)(1) as "…an alteration of the quality of waters of the State by waste to a degree which unreasonably affects either of the following:

Term	Definition
	(A) the waters for beneficial uses. (B) Facilities which serve these beneficial uses.”
Pond(s)	Retention pond, storage pond, settling basin, or any structure used for the treatment, storage, or disposal of process wastewater. Ponds are differentiated from sumps, which are structures in the conveyance system used for the installation and operation of a pump.
Pond system total volume	Sum of the design capacities of all onsite process water ponds.
Process water	Wastewater generated from nut hulling and processing operations. Direct process water is generated from the hulling, washing, and sorting of the raw nuts. Plant process water which may include but not limited to wash/rinse water from clean-in-place; washdown of the processing equipment and storage units; boiler blowdown; cooling tower blowdown, condensate from the steam pasteurizers; seasoning and roasting; filter backwash; and any storm water runoff that collects onsite.
Quarterly, 1/Quarter	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.
Salinity Action Level	Salinity Action Level, expressed as an EC, TDS, or FDS concentration, calculated as a monthly average. This level is based on the most recent five years of data prior to issuance of the NO, or the estimated annual average if there is insufficient data to calculate the five-year maximum average. An exceedance of the Salinity Action Level is not a violation of this General Order, however this General Order requires the Discharger to submit a *Salt Action Plan*.

Term	**Definition**
Salt	Products, other than water from the reaction of an acid with a base. Salts commonly differentiate into cations (sodium, calcium, etc.) and anions (chloride, sulfate, etc.) when dissolved in water. Total dissolved solids (TDS) concentration is generally measured as an indication of the amount of salts in a water or wastewater.
Semi-annually, 2/Year	Samples shall be collected at least twice per calendar year during non-consecutive quarters. Unless otherwise specified or approved, samples shall be collected in April and October.
Setback	Minimum horizontal distance between two features.
Surface water	Open water land features including, but not limited to, navigable rivers, tributaries, lakes, ephemeral streams, and wetlands. Surface waters does not include manmade ponds or ditches used to convey irrigation water to, or between, fields.
Tailwater	Runoff of irrigation water or precipitation that has been collected at the end of a field.
Waste	Includes process solids, leachate, process wastewater, and any water (i.e., precipitation, rainfall, runoff) that comes in contact with raw materials, products, or byproducts.
Waters of the State	Defined in Water Code section 13050 as "…any surface water or groundwater, including saline waters within the boundaries of the state".
Weekly, 1/Week	Samples shall be collected at least once per week.
Year	Refers to calendar year unless otherwise noted.

ATTACHMENT B. APPLICATION/NOTICE OF INTENT FORM

ATTACHMENT C. TECHNICAL REPORT FOR A REPORT OF WASTE DISCHARGE

ATTACHMENT D. NOTICE OF TERMINATION

ATTACHMENT E. MONITORING AND REPORTING PROGRAM TEMPLATE

ATTACHMENT F. REQUIREMENTS FOR MONITORING WELL INSTALLATION WORKPLANS AND MONITORING WELL INSTALLATION REPORT

INFORMATION SHEET