ATTACHMENT D
MONITORING AND REPORTING PROGRAM TEMPLATE

FOR

PACKING GENERAL ORDER R5-2026-XXXX
GENERAL WASTE DISCHARGE REQUIREMENTS FOR FRUIT AND VEGETABLE PACKING FACILITEIS WITHIN THE CENTRAL VALLEY REGION

This Monitoring and Reporting Program (MRP) Template establishes guidance for developing site-specific monitoring and reporting requirements for facilities covered under Order R5-2026-XXXX, *General Waste Discharge Requirements for Fruit and Vegetable Packing Facilities Within the Central Valley Region* (General Order).

When a Facility is enrolled under the General Order through issuance of a Notice of Applicability (NOA), a site-specific MRP will be issued pursuant to Water Code section 13267. This site-specific MRP will outline the monitoring and reporting requirements applicable to the discharge enrolled under the General Order.

The list of constituents/parameters and monitoring frequencies in this MRP Template represents the monitoring generally anticipated for most enrollees under the General Order. However, each site-specific MRP will be tailored to that Facility and will include those requirements necessary to monitor compliance with the General Order. Accordingly, the constituents and monitoring frequencies outlined in a site-specific MRP may differ from those shown in this MRP Template based on site-specific conditions.

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I. INTRODUCTION

The reports required by this MRP are necessary to ensure that the Discharger complies with General Order requirements and its NOA. The burden, including costs, of the required reports bears a reasonable relationship to the need and the benefits to be obtained thereby. Pursuant to Water Code section 13267, the Discharger shall implement this MRP and shall submit the technical or monitoring reports described herein. Pursuant to Water Code section 13268, failure to submit the required technical or monitoring reports, including but not limited to, Compliance letters as described herein or falsifying information is guilty of a misdemeanor and may be subject to enforcement action, including but not limited to penalties up to $1,000 per violation per day.

The Central Valley Water Board requires Dischargers enrolled under the General Order to submit monitoring reports electronically using State Water Resources Control Board's GeoTracker database. Dischargers subject to the General Order shall submit reports (both technical and monitoring reports) and all data to the GeoTracker database via the Internet in portable document format (PDF) and electronic deliverable format (EDF), respectively. GeoTracker database information related to the electronic submittal of information (ESI) is available online. (http://www.waterboards.ca.gov/ust/electronic_submittal/index.shtml)

Additional information regarding the submittal of electronic reports and data is provided under the Reporting Requirements section of this MRP.

Dischargers shall comply with all monitoring and reporting requirements described in this MRP unless otherwise noted. Acronyms used within this MRP are defined in the Acronyms and Abbreviations section included in Attachment A - Glossary of Terms of the General Order.

II. SAMPLING AND ANALYSIS

The Discharger shall prepare a Sampling and Analysis Plan (SAP) describing how the Discharger will carry out its operations in compliance with the General Order and the Facility's site-specific MRP. Anyone performing sampling on behalf of the Discharger must be familiar with the SAP. At a minimum, the SAP shall include the following:

1. A process flow diagram with all treatment, storage components, and monitoring locations labeled. Include groundwater monitoring wells if applicable.
2. A list of parameters that will be monitored/sampled in the field or metered in situ. Include field calibration procedures.
3. Sample chain-of-custody procedures and documentation.
4. List of sampling containers, chemical preservatives, and holding times.

5. Sample collection and field preservation procedures.
6. Tabulated list of sampling parameters with corresponding analytical methods, and detection limits.
7. Analytical/monitoring schedule.
8. Groundwater monitoring and purging procedures (if applicable).

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. Samples and measurements shall be obtained at the monitoring points specified in the table below and the Facility's SAP. If composite samples are collected, the basis for the sampling (time or flow-weighted) shall be identified and approved by Central Valley Water Board staff. Dischargers shall submit a new SAP to the Central Valley Water Board prior to making any changes.

Table 1. Monitoring Locations

Monitoring Location	Monitoring Location Description
SW-001, SW-00X, etc.	Facility's source water
IRG-001, IRG-00X, etc.	Supplemental irrigation water
EFF-001	Location where a representative sample of the effluent can be taken after any treatment or processing but prior to discharged to an unlined pond.
EFF-002	Location where a representative sample of the effluent can be taken after any treatment, processing, and/or storage prior to discharge to the land application area.
PND-001, PND-00X, etc.	Pond monitoring
LAA-001, LAA-00X, etc.	Land application area (LAA) monitoring
(Insert Monitoring Location Name)	(Insert Location Description)

The Discharger shall use clean sample containers and sample handling, storage, and preservation methods shall be in accordance with approved United States Environmental Protection Agency (US EPA) analytical methods or as recommended by the analytical laboratory. Samples collected for laboratory analysis shall be preserved as required and submitted to the laboratory within the required holding time appropriate for the analytical method used and constituents analyzed. All samples collected for laboratory analysis shall be identified on a properly completed chain-of-custody form containing the sampler's name, time, date, type, and location

of each sample collected. All field logs, laboratory reports, and quality assurance/ quality control data shall be reported with the sample results to which it applies.

Field test instruments (such as those used to measure pH, temperature, electrical conductivity (EC), dissolved oxygen (DO), wind speed, and precipitation) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated at the frequency recommended by the manufacturer;
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the “Reporting” section of this MRP.

Consistent with Water Code section 13176, data produced and reports submitted for compliance with this General Order must be generated by a laboratory with accreditation from the State Water Resources Control Board, Division of Drinking Water, Environmental Laboratory Accreditation Program (ELAP), where accreditation is specific to the analyses required, or the laboratory must hold a valid certificate of accreditation for equivalent analytical test methods validated for the intended uses and approved by the State Water Board or regional water board. Laboratory analytical procedures shall comply with the methods and holding times specified in the following (as applicable to the medium to be analyzed):

- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater (US EPA);
- Test Methods for Evaluating Solid Waste (US EPA);
- Methods for Chemical Analysis of Water and Wastes (US EPA);
- Methods for Determination of Inorganic Substances in Environmental Samples (US EPA);
- Standard Methods for the Examination of Water and Wastewater (APHA/AWWA/WEF); and
- Soil, Plant and Water Reference Methods for the Western Region (WREP 125).

Approved editions shall be those that are currently approved for use by the US EPA or the Division of Drinking Water’s ELAP. The Discharger may propose alternative methods for approval by the Executive Officer. Where technically feasible, laboratory reporting limits shall be lower than the applicable water quality objectives for the constituents to be analyzed.

III. SOURCE WATER AND SUPPLEMENTAL IRRIGATION MONITORING

Dischargers in all tiers shall monitor the quality of its source water supply (at Monitoring Location SW-00X) used for Facility operations (i.e., water supply well, surface water, municipal source, etc.). Source water monitoring samples shall be collected during the packing season. In addition, Tier 2, Tier 3, and Tier 4 Facilities shall monitor any supplemental irrigation water source (at Monitoring Location IRG-00X) used to meet crop requirements within the LAA, if different from the Facility's source water supply. Facility source water and supplemental irrigation monitoring shall include the following:

Table 2a. Source Water Monitoring

Parameter/ Constituent	Units	Sample Type	Tier 1, Tier 2 and Tier 3	Tier 4
pH	Std. units	Grab	1/Year	1/Quarter
EC	µmhos/cm	Grab	1/Year	1/Quarter
FDS	mg/L	Grab	1/Year	1/Quarter
Nitrate as N	mg/L	Grab	1/Year	1/Quarter
General Minerals (see 1 below)	mg/L	Grab	1/3 Years (see 2 below)	1/Year

Table 2b. Supplemental Irrigation Monitoring

Parameter/ Constituent	Units	Sample Type	Tier 2 and Tier 3	Tier 4
Flow	gallons	Metered/ Calculated	Continuous, or daily (see 3 below)	Continuous, or daily
pH	Std. units	Grab	1/Year	1/Quarter
EC	µmhos/cm	Grab	1/Year	1/Quarter
FDS	mg/L	Grab	1/Year	1/Quarter
Nitrate as N	mg/L	Grab	1/Year	1/Quarter

1. General Minerals analysis only required for Facility source water supplies, unless otherwise directed. General Minerals analysis shall include: alkalinity (as $CaCO_3$), bicarbonate (as $CaCO_3$), boron, calcium, carbonate (as $CaCO_3$), chloride, iron, magnesium, manganese, nitrate as N, phosphate, potassium, sodium, sulfate, and total dissolved solids.
2. Sample shall be collected once every three years starting the year following issuance of the NOA.

3. Flows shall be measured using a meter. For Tier 2, flows may be calculated using an alternative method (e.g., effluent flow is equal to facility source water use, or estimated based on pump run time or operations, etc.). The method of measurement shall be specified.

IV. EFFLUENT DISCHARGE TO UNLINED POND MONITORING

Effluent samples and monitoring are required when process wastewater is discharged to an unlined pond for storage and/or disposal. The Discharger shall collect effluent flow measurements and samples at Monitoring Location EFF-001 (Note that sampling frequency may be reduced if discharge also goes to a LAA). Effluent monitoring to an unlined pond shall include the following:

Table 3. Effluent Discharge to Unlined Pond Monitoring

Parameter/ Constituent	Units	Sample Type	Tier 2b and Tier 3	Tier 4
Days of Operation (see 1 below)	Day	Observation	Daily	Daily
Flow	gpd	Meter (see 2 below)	Continuous, or daily	Continuous, or daily
BOD_5	mg/L	Grab or 24-hr composite (see 3 below)	1/Month	1/Month
FDS	mg/L	Grab or 24-hr composite (see 3 below)	1/Month	1/Month
TSS	mg/L	Grab or 24-hr composite (see 3 below)	1/Month	1/Month
Nitrate + Nitrite as N	mg/L	Grab or 24-hr composite (see 3 below)	1/Month	1/Month
TKN	mg/L	Grab or 24-hr composite (see 3 below)	1/Month	1/Month
Ammonia as Nitrogen	mg/L	Grab or 24-hr composite (see 3 below)	1/Month	1/Month

Parameter/ Constituent	**Units**	**Sample Type**	**Tier 2b and Tier 3**	**Tier 4**
Total Nitrogen	mg/L	Grab or 24-hr composite (see 3 below)	1/Month	1/Month
General Minerals (see 4 below)	mg/L	Grab or 24-hr composite (see 3 below)	1/Year (see 5 below)	2/Year (see 5 below)
Total Trihalomethanes (see 6 below)	µg/L	Grab or 24-hr composite (see 3 below)	1/Year (see 5 below)	2/Year (see 5 below)

1. Facility effluent observation days only required when process wastewater is being generated.
2. Flows shall be measured using a meter. For Tier 2b, flows may be calculated using an alternative method (e.g., effluent flow is equal to facility source water use, or estimated based on pump run time or operations, etc.). The method of measurement shall be specified.
3. Tier 2b may collect grab samples. Tiers 3 and 4 shall collect 24-hour composite samples unless otherwise specified.
4. General Minerals analysis shall include: alkalinity (as $CaCO_3$), bicarbonate (as $CaCO_3$), boron, calcium, carbonate (as $CaCO_3$), chloride, iron, magnesium, manganese, nitrate as N, phosphate, potassium, sodium, sulfate, and total dissolved solids.
5. For Tier 2b and Tier 3, samples shall be collected once a year during the processing season. For Tier 4, samples shall be collected twice per year, once in the spring (March through May) and once in the fall (September through November), unless otherwise specified.
6. Total Trihalomethanes analysis shall include: bromoform, bromodichloromethane, chloroform, and dibromochloromethane.

V. POND MONITORING (if applicable)

Wastewater ponds, whether lined or unlined, shall be monitored, at Monitoring Location PND-00X, as specified below unless otherwise stated. Pond samples shall be collected from the pond only when there is greater than one foot of water in the bottom of the pond. Freeboard shall be measured from the surface of the water to the lowest point on the containment berm. In addition to sampling the wastewater, the Discharger shall also inspect the pond(s) and note the condition of the berms and liner (if applicable) in field logs, a summary of which shall be included in the applicable monitoring report. Ponds used to store or dispose of process wastewater shall be monitored until dry.

Table 4. Pond Monitoring (lined or unlined)

Parameter/ Constituent	Units	Sample Type	Tier 2 and Tier 3	Tier 4
DO (see 1 and 2 below)	mg/L	Field	1/Month	1/Week
pH (see 1 and 2 below)	Std. units	Field	1/Month	1/Week
EC (see 1 below)	µmhos/cm	Field	1/Month	1/Week
Freeboard	0.1 foot	Observation	1/Month	1/Month
Berm Condition	---	Observation	1/Year	1/Quarter
Solids depth	0.5 foot	Observation	1/Year	1/Year
Liner Condition (see 3 below)	---	Observation	1/Year	1/Quarter
Liner Integrity Leak Test (see 4 below)	---	---	1/5 Year	1/5 Year
LCRS Monitoring (see 5 below)	gallons	Filed	1/Year	1/Quarter

1. Samples for DO, pH, and EC shall be collected between 8:00 am and 10:00 am at a depth of one foot opposite the inlet to the pond. If there is insufficient water in the pond no sample shall be collected, and the Discharger shall report that in the appropriate monitoring report.
2. If offensive odors are detected or brought to the attention of the Discharger, the Discharger shall begin monitoring the potential source pond for DO and pH daily (excluding weekends and holidays) until the odor issue has been resolved.
3. If a liner is present, the Discharger shall visually inspect the condition of the liner for evidence of leaks, cracks, or tears. If evidence of damage or tearing is observed, the applicable monitoring report shall include a work plan with a time schedule to complete liner repairs.
4. The Discharger shall have an integrity test performed on any lined pond at least once every five years in accordance with the conditions in Process Wastewater Ponds Specifications F.12. An annual evaluation of a dedicated Leachate Collection and Recovery System (LCRS) with the action leak level or groundwater monitoring may replace this requirement.
5. If applicable, the Discharger shall inspect the LCRS sump(s) for the presence of leachate. The total flow in each sump shall be recorded. If the total volume of leachate pumped nears the LCRS capacity (e.g., 90%), the Discharger shall conduct a leachate rate calculation to determine the leakage rate and take the necessary actions to inspect the primary liner system. In addition, the Discharger shall notify Central Valley Water Board staff within seven days if the rate of fluid

generation in any LCRS sump exceeds the Action Leakage Rate (ALR) identified in the NOI.

VI. EFFLUENT DISCHARGE TO LAND APPLICATION AREA (LAA)

Monitoring effluent discharged to the land application areas shall be conducted at a point in the system following all treatment and/or storage ponds in months when process wastewater is being applied to the land application areas at Monitoring Location EFF-002, as specified below. Date and time of sample collection shall be recorded. Effluent discharge to the LAA shall include the following.

Table 5. Effluent Discharge to Land Application Area Monitoring

Parameter/ Constituent	Units	Sample Type	Tier 1	Tier 2, Tier 3 and Tier 4
Days of Operation (see 1 below)	Day	Observation	Daily	Daily
Flow	gpd	Meter (see 2 below)	Continuous, or daily	Continuous, or daily
pH	Std. Units	Grab	1/Month	1/Month
EC	µmhos/cm	Grab	1/Month	1/Month (see 5 below)
BOD_5	mg/L	Grab or 24-hr composite (see 3 below)	2/Year (see 4 below)	1/Month (see 5 below)
FDS	mg/L	Grab or 24-hr composite (see 3 below)	2/Year (see 4 below)	1/Month
Nitrate + nitrite as N	mg/L	Grab or 24-hr composite (see 3 below)	2/Year (see 4 below)	1/Month
TKN	mg/L	Grab or 24-hr composite (see 3 below)	2/Year (see 4 below)	1/Month
Ammonia as N	mg/L	Grab or 24-hr composite (see 3 below)	2/Year (see 4 below)	1/Month
Total Nitrogen	mg/L	Grab or 24-hr composite (see 3 below)	2/Year (see 4 below)	1/Month

Parameter/ Constituent	Units	Sample Type	Tier 1	Tier 2, Tier 3 and Tier 4
General Minerals (see 6 below)	mg/L	Grab or 24-hr composite (see 3 below)	1/Year	1 or 2/Year (see 7 below)

1. Facility effluent observations for operating days only required when process wastewater is being generated.
2. Flows shall be measured using a flowmeter. For Tier 1 and Tier 2, flows may be calculated using an alternative method (e.g., effluent flow is equal to Facility source water use, or estimated based on pump run time, operations, tank capacity, etc.). The method of measurement shall be specified.
3. Tier 1 and Tier 2 may collect grab samples. Tier 3 and Tier 4 shall collect 24-hour composite samples. Grab samples can be collected in lieu of a 24-hour composite if collected near the outlet of a pond with at least a 24-hour residence time and discharge is entirely from the pond.
4. Samples to be collected twice per year, once at the start of the processing season, and once in the middle of the season.
5. Samples shall be collected 1/Month unless otherwise specified. Most raisin packers or discharges that show elevated BOD_5 or significant fluctuations in BOD_5 or EC will be required to conduct 2/Month or 1/Week sampling for BOD_5 and/or EC.
6. General Minerals analysis shall include: alkalinity (as $CaCO_3$), bicarbonate (as $CaCO_3$), boron, calcium, carbonate (as $CaCO_3$), chloride, iron, magnesium, manganese, nitrate as N, phosphate, potassium, sodium, sulfate, and total dissolved solids.
7. For Tier 1, Tier 2, and Tier 3, samples shall be collected once a year during the processing season. For Tier 4, samples shall be collected twice per year, once in the spring (March through May) and once in the fall (September through November), unless otherwise specified.

VII. LAND APPLICATION AREA (LAA) MONITORING

The Discharger shall inspect the LAA at least once daily during irrigation events. Evidence of erosion, field saturation, broken lines/sprinklers, runoff, or the presence of nuisance conditions (i.e., flies, ponding, etc.) shall be noted in the Facility's Field logbook. A summary of the notations made in the logbook shall be provided in each quarterly/annual report. In addition, the Discharger shall perform the following routine monitoring and loading calculations for each discrete irrigation unit (or Field), at Monitoring Locations LAA-00X, within the LAA each day when wastewater is applied. The data shall be collected and presented in a graphical (map) and/or tabular format and shall include the following:

Table 6. Land Application Area Monitoring

Parameter	**Units**	**Sample Type**	**Frequency**
Field Irrigated (Field ID)	Wetted acres	---	Daily (see 1 below)
Cropping Activities (see 2 below)	---	Observation	When it occurs
Wastewater flow to each field	Gallons	Metered	Daily (see 1 below)
Wastewater loading to each field	Inches/day	Calculated	Daily (see 1 below)
Supplemental irrigation to each field	Gallons	Metered	Daily (see 1 below)
Supplemental Irrigation loading	Inches/day	Calculated	Daily (see 1 below)
Precipitation	Inches/day	Rain gauge (see 3 below)	Daily (see 1 below)
Total Hydraulic Loading (see 4 below)	Inches per acre per month	Calculated	1/Month
BOD Loading (see 5 below)	--	--	--
Daily Loading	lbs/acre	Calculated	Daily (see 1 below)
Cycle Average (see 6 below)	lbs/ac/day	Calculated	Cycle
Nitrogen Loading (see 5 below)	--	--	--
From wastewater	lbs/ac/year	Calculated	1/Year
From fertilizers (and any solids applied)	lbs/ac/year	Calculated	1/Year
From supplemental irrigation water	lbs/ac/year	Calculated	1/Year
Salt (FDS) Loading (see 5 below)	--	--	--
From wastewater	lbs/ac/year	Calculated	1/Year
From supplemental irrigation water	lbs/ac/year	Calculated	1/Year
Field Conditions	--	--	--
Nuisance, odors, vectors	--	Observation	Weekly

Parameter	Units	Sample Type	Frequency
Discharge runoff	--	Observation	Weekly

1. Daily when wastewater or waste solids are being applied to the LAAs, with the exception of precipitation, which shall be monitored continuously throughout the reporting period.
2. Summarize cropping activities for each field/management unit (e.g., type of crop planted, planting and harvesting dates, crop harvest yield [total tons and tons per acre], and crop tissue sampling dates and analytical results [if applicable]).
3. National Weather Service or CIMIS data from the nearest weather station is acceptable.
4. Combined hydraulic loading from wastewater, supplemental irrigation water, and precipitation.
5. BOD, nitrogen, and salt loading (FDS) shall be calculated as specified in Section III of the MRP.
6. A cycle average is calculated by taking the pounds of BOD applied to an individual LAA unit (i.e., Field) during an irrigation cycle, divided by the sum of the total day(s) in the irrigation cycle when wastewater is applied to that Field plus the number of days of rest (no application of wastewater or supplemental irrigation water). See section XI of this MRP for the calculation.

VIII. CROP TISSUE MONITORING (if applicable)

For Facilities that use crop tissue analysis to establish crop nutrient uptake in accordance with its Nutrient and Wastewater Management Plan (Provision I.2 of the General Order), the Discharger shall collect tissue samples for analysis to help in determining crop nutrient needs. Plant tissue monitoring shall include at least the following:

Table 7. Crop Tissue Monitoring

Parameter/ Constituent	Units	Sample Type	Frequency
Crop Type	---	---	Once per crop
Date(s) Planted	mm/dd/yy	---	Once per crop
Date(s) Harvested	mm/dd/yy	---	Each cutting
Crop yield	Tons/acre	---	Each cutting
Tissue sampling (see 1 below)	Variable	Composite	Each cutting

1. At a minimum, crop tissue sampling analyses shall consist of moisture, total nitrogen, phosphorus, potassium, and ash.

IX. SOLIDS MONITORING

Process solids monitoring shall be conducted when process solids are disposed of. Monitoring shall also include solids characterization and field monitoring when process solids are applied to the land application areas. Process solids monitoring shall include the following:

Table 8. Solids Monitoring

Parameter/ Constituent	Units	Sample Type	Tier 1, Tier 2, and Tier 3	Tier 4
Solids generated (see 1 below)	Wet tons	Estimated or measured	1/Year	1/Month
Disposal method (see 2 below)	NA	Observation	1/Year	1/Month
Land Applied Solids (see 3 below)				
Amount Applied	Wet tons	Estimated or measured	1/Year	1/Month
Application Field	NA	Observation	1/Year	1/Month
Application Area	Acres	Observation	1/Year	1/Month
Nitrate + nitrite as N	mg/kg	Grab	1/Year	1/Quarter
TKN	mg/kg	Grab	1/Year	1/Quarter
Ammonia as N	mg/kg	Grab	1/Year	1/Quarter
Total Nitrogen	mg/kg	Calculated	1/Year	1/Quarter

1. Identify source of process solids (e.g., green waste, culls, screen residuals, settled solids, etc.) and amount generated.
2. If more than one disposal method is used, identify material and quantity sent to each (e.g., landfill, off-site reuse, composting, land applied, etc.).
3. Required if process solids applied to the land application area. A representative composite sample of the process solids material shall be collected prior to land application and analyzed for the constituents listed. Sampling results shall be provided on a dry weight basis.

X. GROUNDWATER MONITORING (if applicable)

Facilities with existing groundwater monitoring well networks may be required to continue groundwater monitoring. In addition, Facilities without existing groundwater monitoring wells may, on a case-by-case basis, be directed in their site-specific MRP to install a monitoring well network and begin groundwater monitoring. If the site-specific MRP specifies groundwater monitoring for a Facility without an existing

monitoring well network, the Discharger shall install a monitoring well network in accordance with the Time Schedule as outlined in Provision I.3. of the General Order. Typical groundwater monitoring requirements for sites that are required to have a groundwater monitoring network are outlined in Table 9 below.

Prior to sampling, depth-to-groundwater shall be measured in each well and groundwater elevations calculated. The monitoring wells shall be adequately purged until pH, temperature, and EC have stabilized. Depending on the hydraulic conductivity of the geologic setting, the volume of water removed during purging is typically a minimum of three casing volumes. Alternatively, low flow purging and sampling techniques may be utilized. Once groundwater levels have recovered sufficiently to ensure collection of representative groundwater samples, a qualified individual (e.g., consultant, technician, etc.) trained in proper sampling methods shall collect samples using approved US EPA methods. All purge and sampling data shall be recorded and submitted in the monitoring well field sampling logs, and shall be included in the appropriate monitoring report.

Table 9. Groundwater Monitoring

Parameter/ Constituent	**Units**	**Sample Type**	**Tier 2 and Tier 3 (see 1 below)**	**Tier 4**
Depth to groundwater	0.1 foot	Measured	2/Year or 1/Quarter	1/Quarter
Groundwater elevation (see 2 below)	0.1 foot	Calculated	2/Year or 1/Quarter	1/Quarter
Flow direction and gradient	feet/feet	Calculated	2/Year or 1/Quarter	1/Quarter
pH	Std. units	Grab	2/Year or 1/Quarter	1/Quarter
EC	µmhos/cm	Grab	2/Year or 1/Quarter	1/Quarter
TDS	mg/L	Grab	2/Year or 1/Quarter	1/Quarter
Nitrate + Nitrite as Nitrogen	mg/L	Grab	2/Year or 1/Quarter	1/Quarter
Ammonia as Nitrogen	mg/L	Grab	2/Year or 1/Quarter	1/Quarter
TKN	mg/L	Grab	2/Year or 1/Quarter	1/Quarter
Arsenic	µg/L	Grab	2/Year or 1/Quarter	1/Quarter
Total Organic Carbon (TOC)	mg/L	Grab	2/Year or 1/Quarter	1/Quarter

Parameter/ Constituent	Units	Sample Type	Tier 2 and Tier 3 (see 1 below)	Tier 4
General minerals (see 3 and 4 below)	mg/L	Grab	2/Year or 1/Quarter	1/Quarter
Total Trihalomethanes (see 5 below)	µg/L	Grab	2/Year or 1/Quarter	1/Quarter

1. Groundwater monitoring shall be conducted twice per year in spring and fall, or once per quarter if groundwater monitoring is used to evaluate groundwater conditions around an unlined pond unless otherwise specified.
2. Groundwater elevation shall be determined based on depth-to-water measurements using a surveyed elevation reference point.
3. General Minerals analysis shall include: alkalinity (as $CaCO_3$), bicarbonate (as $CaCO_3$), boron, calcium, carbonate (as $CaCO_3$), chloride, iron, magnesium, manganese, nitrate as N, phosphate, potassium, sodium, sulfate, and anion/cation balance.
4. For constituents with Secondary MCLs listed in California Code of Regulations Title 22 Table 64449-A (e.g., iron and manganese), samples shall be filtered with a 1.5-micron filter prior to preservation, digestion, and analysis. For all other constituents, samples shall be filtered using a 0.45-micron filter.
5. Total Trihalomethanes analysis may be required if the discharge is to an unlined pond, if groundwater is less than 25 feet below site grade (bsg), or if organic loading is high (e.g., BOD loading on the day of application exceeds 600 lbs/ac/day). Analysis shall include: bromoform, bromodichloromethane, chloroform, and dibromochloromethane.

The Discharger shall maintain its groundwater monitoring well network. If a monitoring well(s) is damaged or is dry for more than four consecutive sampling events, the Discharger shall submit a workplan and proposed time schedule to replace the monitoring well(s). Once installed, all new monitoring wells shall be added to the existing groundwater monitoring well network.

XI. REPORTING REQUIREMENTS

All technical and monitoring reports must be provided electronically in a searchable PDF format. Central Valley Water Board staff may request submittal of some documents on paper, particularly drawings or maps that require a large size to be readable or in other electronic formats where evaluation of data is required.

The Discharger shall submit all reports/documents and laboratory analytical data to the State Water Board's GeoTracker database consistent with applicable Electronical Submittal of Information (ESI) requirements under a Facility specific global identification number.

(https://www.waterboards.ca.gov/ust/electronic_submittal/index.html)

GeoTracker Electronic Reporting Requirements: All monitoring reports and sampling results shall be submitted to GeoTracker in a searchable Portable Document Format (PDF) or Electronic Deliverable Format (EDF) as outlined in Table 10 below.

Table 10. GeoTracker Electronic Submittal Information Data Requirements

Electronic Submittal	Description of Action	Action	Frequency
Reports and Documents	Complete copy of all documents, including monitoring reports and technical reports (in searchable PDF format) and any associated documents related to the Facility	Upload directly to GeoTracker all monitoring, technical, and other associated documents	On or before the due dates required by the General Order, and Facility specific MRP or when requested by Central Valley Water Board staff.
Laboratory Data	All analytical data (including geochemical data) in electronic deliverable format (EDF). This includes all effluent, groundwater, and solids collected when monitoring a discharge.	Direct your California ELAP accredited laboratory staff to upload all laboratory analytical data directly to GeoTracker	On or before the due date required by the report.
Depth to Groundwater Data	Monitoring wells must have depth-to-water (dtw) information reported. Report only for wells defined as permanent sampling points.	Upload dtw information to the GeoTracker GEO_WELL file.	On or before the due date of the required report.

Electronic Submittal	Description of Action	Action	Frequency
Field Points, Location Data (Geo XY) (see 1 below)	Name, classify, and identify the location (latitude and longitude) of all sampling points. Any influent and effluent sampling locations identified using the GeoTracker mapping tool shall be identified as "non-surveyed" data. These data points are required prior to laboratory data uploads. Note Monitoring well location data must be surveyed.	Upload location data (surveyed and non-surveyed) to the GeoTracker GEO_XY file.	Every time a permanent monitoring point is established.
Elevation Data (Geo Z) (see 2 below)	Survey and mark the elevation at the top of the groundwater well casing for all permanent groundwater monitoring locations. These points are required prior to depth-to-water data uploads.	Upload the survey data to GeoTracker GEO_Z file.	One-time, for all groundwater monitoring wells, and any time a new well is installed.
Geo Map	Site layout, map of facilities include all treatment, storage, and disposal locations.	Upload Site Layout PDF to the GeoTracker site plan file.	Year one and every five years thereafter, and any time the facility is modified.
Boring/Well Logs	Boring/well logs must be prepared by a registered professional and submitted in PDF format separately (not as an attachment to a report)	Upload boring/well logs (in searchable PDF format) to GeoTracker GEO_BORE file.	Every time a new boring is drilled

1. Geo XY is required for all wells. New wells must be surveyed. For existing wells, use original well installation survey data, if available. The Discharger must also upload sample location data (e.g., effluent and pond sampling data) that are not defined as permanent monitoring wells and do not need to be surveyed by a licensed professional.

2. Geo Z is required for all wells. New wells must be surveyed. For existing wells, use the original well installation survey data, if available.

In order to submit reports electronically, the Discharger shall create a secure GeoTracker account and log in credentials, claim their Facility by requesting access in GeoTracker, and upload copies of the required reports via the ESI portal as outlined in the GeoTracker ESI Beginner's Guide for Responsible Parties (Beginner's Guide). The Discharger may complete the above tasks by accessing the 'Getting Started' section on the GeoTracker ESI webpage.

(https://www.waterboards.ca.gov/ust/electronic_submittal/index.html)

Additional GeoTracker support information can be found at the following:

a. 'Guides/Resources' document link in the "Tools" on the Discharger's GeoTracker ESI account.

b. Resources on the GeoTracker ESI website, such as the Beginner's Guide (https://www.waterboards.ca.gov/ust/electronic_submittal/docs/geotracker_esi_rp_beginners_guide_revisedoct2019.pdf)

c. General GeoTracker Help Desk contact information:

   Phone: 1-866-480-1028, Email: geotracker@waterboards.ca.gov

Dischargers in all tiers shall submit Compliance letters and Annual Monitoring reports as required below. In addition, Tier 4 Facilities will be required to submit Quarterly Monitoring Reports. Reporting periods and due dates are summarized in Table 11.

Table 11. Reporting Schedule

Report	Monitoring Period	Report Due Date
1st Quarter Monitoring Report	1 January to 31 March	1 May
2nd Quarter Monitoring Report	1 April to 30 June	1 August
3rd Quarter Monitoring Report	1 July to 30 September	1 November
4th Quarter Monitoring Report	1 October to 31 December	1 February
Annual Monitoring Report (may be submitted as part of the 4th Quarter Monitoring Report)	1 January to 31 December	1 February

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample location, constituents, concentrations, and observations are readily discernible. The data shall be summarized in a manner that illustrates clearly

whether the discharge is in compliance with the General Order and the Facility's NOA. The Discharger shall include copies of all laboratory analytical reports. Results of any monitoring done more frequently than specified in the MRP shall be reported in the next regularly scheduled monitoring report and shall include calculations as appropriate.

All monitoring reports that involve planning, investigation, evaluation, design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1.

All monitoring reports and Compliance Letters shall include the following signatory statement signed by the Discharger or the Discharger's duly authorized representative:

> *"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."*

A. Compliance Letters (All Tiers) shall include the following:

1. Discharger name and contact information (i.e., telephone and email address),
2. Facility name, facility tier, enrollee number.
3. A discussion of any violations or exceedances that occurred during the reporting period,
4. Actions taken or planned to correct the violations and prevent future violations (e.g., operation or facility modifications) with a time schedule to implement the corrective actions.

B. Annual Report (Tier 1 only) shall include the following:

1. Scaled Map showing Facility structures (e.g., buildings, storage pads, etc.), processing areas, solids storage areas, land application areas, property lines, water supply wells, and any other relevant site features. Include identifying information (e.g., field numbers, acreages).
2. Provide total days of operation and total annual process wastewater flows and compare the total annual flow to the design flow stipulated in the NOA.
3. Results of Source Water and Effluent Monitoring to the LAA.

4. Compare the salinity of the discharge with the Salinity Requirements established in the Facility's NOA.

    a. Path 1 Dischargers: Comparison of the average monthly effluent EC with the Conservative EC limit of 700 µmhos/cm or 900 µmhos/cm.

    b. Path 2 Dischargers: Comparison of the annual average salinity concentration in the discharge with the established Performance-based Salinity Action Level for EC, TDS or FDS specified in the NOA.

5. Total amount of process solids generated during the reporting period in tons or pounds generated. Include description of the method of disposal or reuse. If more than one method is utilized, include the percentage disposed of or reused by each method (e.g., landfill, livestock feed, composting, on-site land application, etc.). Include the name and location of the disposal site.

6. Discuss any violations that occurred during the reporting year, and all actions taken or planned to correct or prevent future violations, such as operation or facility modifications, include a time schedule to complete the corrective actions.

7. A summary of any changes in processing that occurred during the reporting year or planned for the next year that might affect process wastewater flows or quality.

8. Status of compliance with the ILRP Program (if required). Include copies of required Farm Evaluation and Irrigation Nitrogen Management Plan Summary Reports for the preceding year and confirmation of payment submittal of ILRP Coalition fees.

9. Self-certification that the Facility complied with the criteria to qualify as a Tier 1 Facility for the reporting year and expects to comply the following year.

C. Reporting Tiers 2, 3, and 4 shall include the following

<u>Facility Information (Annual Report only)</u>

1. Scaled map showing facility structures (e.g., buildings, storage pads, etc.), processing areas, solids storage areas, land application areas, property lines, water supply wells, and any other relevant site features. Include identifying information (e.g., field numbers, acreages).

2. Summary of any changes in processing that occurred during the reporting year or planned for the next that might affect process wastewater flows or quality.

3. Facility calibration records for all flow meters used to demonstrate compliance with the General Order and site-specific NOA.

Source Water and Supplemental Irrigation Reporting

4. Results of the monitoring specified under Section I. in the MRP. Results shall include supporting calculations.

5. Calculation of the flow-weighted annual average FDS of the source water.

Effluent (Process Wastewater) Reporting

6. Results of required monitoring for Effluent Discharges to unlined Ponds(s) and/or the LAA as specified in Sections II and IV of the MRP.

7. Compare the salinity of the discharge with the Salinity Requirements established in the Facility's NOA.

   a. Path 1 Dischargers: Comparison of the average monthly effluent EC with the Conservative EC limit of 700 µmhos/cm or 900 µmhos/cm.

   b. Path 2 Dischargers: Comparison of the annual average salinity concentration in the discharge with the established Performance-based Salinity Action Level for EC, TDS or FDS specified in the NOA.

8. Total monthly and annual days of operation and cumulative volume of the discharge for the reporting period. For each month also calculate the monthly average and maximum daily flow.

Pond Reporting

9. Results of the pond monitoring specified in Section III of the MRP.

10. Summary of pond monitoring log requirements.

11. If a performance liner leak evaluation or integrity testing was conducted during the reporting period, include a description of the integrity testing results and/or liner leak evaluation and a discussion of the pond liner performance.

Land Application Area Reporting

12. Results of all monitoring and loading calculations specified in Section V of the MRP.

13. Monthly and annual process wastewater and supplemental irrigation water volumes applied to each individual field/management unit expressed in gallons. Include a summary of land application monitoring log notations.

14. Calculation of the monthly and total hydraulic loading from process wastewater and supplemental irrigation water applied to each individual field/management unit in gallons and inches per acre per month

15. Calculation of the cycle average BOD loading for each field/management unit and compare it with the BOD loading limits specified in the NOA. Include the number of days in each irrigation cycle.

    The mass of BOD applied to each discrete irrigation area within the LAA on a cycle average basis shall be calculated using the following formula:

$$M = \frac{8.345(CV)}{AT}$$

    Where: M = Mass of BOD applied to each discrete LAA field in lbs/ac/day

    C = Concentration of BOD_5 in mg/L based on the monthly average concentration, or the quarterly average, where appropriate.

    V = Total volume of wastewater applied to the LAA field during the irrigation cycle, in millions of gallons

    A = Area of the LAA field in wetted acres

    T = Irrigation cycle length in days (from the first day wastewater was applied to the last day of the drying time)

    8.345 = Unit conversion factor.

16. Annual nitrogen balance showing the total nitrogen loading (in pounds per acre per year [lbs/ac/year]) to each field or individual management unit, as appropriate, calculated from the sum of the monthly nitrogen loading from all sources applied (process wastewater, irrigation water, solids, and fertilizers). The annual nitrogen balance shall include:

    a. Types of crops grown or landscape irrigated, include planting, harvest dates, and crop harvest yield.

    b. Nitrogen loading by source (e.g., fertilizer, process wastewater, supplemental irrigation water, and applied solids). Indicate any estimated nitrogen losses that reduce plant available nitrogen used in the nitrogen balance calculations (include references).

c. Crop uptake rates for each crop grown. Provide results of representative plant tissue analysis or technical reference source for cited values.

d. Comparison of total nitrogen applied to crop uptake.

17. Total annual FDS loading from process wastewater (in lbs/ac/year) applied to each land application area field or individual management unit, as appropriate, calculated from the sum of the monthly loading.

Crop Tissue Reporting (if required)

19. Results of crop tissue monitoring specified in Section VI of the MRP.

20. Total crop yield in tones/acre harvested.

Solids Reporting

21. Results of all solids monitoring specified in Section VII of the MRP.

22. Total amount of process solids generated during the reporting period in tons or pounds (wet or dry) generated.

23. A description of all process solids disposal or reuse methods. If more than one method is utilized, include the percentage disposed of or reused by each method (e.g., landfill, livestock feed, composting, on-site land application, etc.). Include the name and location of the disposal site.

24. Characterization of any process solids generated from pond dredging, settling tank pump out or other cleanout conducted during the reporting period. Include a description of the activity, amount of material removed, date, sampling results (if required), and method of disposal or reuse.

Groundwater Monitoring (if required)

25. Results of groundwater monitoring specified in Section VIII of the MRP. If there is insufficient water for sampling, the well shall be reported as dry for that monitoring period.

26. A table and graphs showing current and historical groundwater depth, elevation, and constituent concentrations through the current period.

27. Groundwater contour map showing the gradient and direction of groundwater flow.

28. Discussion of groundwater elevation and constituent concentration trends over time and projected impacts on groundwater quality.

29. Copies of all field sampling logs and laboratory analytical reports.

Compliance Summary (Annual Report only)

31. Compliance update for the Salt and Nitrate Control Programs (dependent on site-specific path).

32. Description of any Facility BPTC improvements or modifications required by the NOA that were started or completed during the reporting period.

The Discharger shall implement the above monitoring and reporting program on the first day of the month following the effective date of the NOA.

Ordered by:

PATRICK PULUPA, Executive Officer

Date