CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

<u>TENTATIVE</u> MONITORING AND REPORTING PROGRAM R5-2024-00XX
FOR
CONTROLLED ENVIRONMENT FOODS FUND II TEHACHAPI PROPERTY, LLC
CEFF II TEHACHAPI GREENHOUSE
KERN COUNTY

This Monitoring and Reporting Program (MRP), which is separately issued pursuant to California Water Code section 13267 subdivision (b)(1), establishes monitoring and reporting requirements related to the waste discharge(s) regulated under Waste Discharge Requirements (WDRs) Order R5-2024-00XX (WDRs Order). Each of the Findings set forth in the WDRs Order, including those pertaining to the need for submission of reports, are hereby incorporated as part of this MRP.

Controlled Environment Foods Fund II Tehachapi Property, LLC (CEFF II or Discharger) owns and operates a greenhouse/hydroponics facility (Facility) and the surrounding land application areas. The reuse of process wastewater from the Facility to the land application areas is subject to the WDRs Order. CEFF II is referred to as Discharger and is responsible for compliance with this MRP. The Discharger shall not implement any changes to this MRP unless and until the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopts, or the Executive Officer issues, a revised MRP.

A glossary of terms used in this MRP is included on the last page.

This MRP may be separately revised by the Executive Officer, in accordance with their delegated authority under Water Code section 13223.

I. GENERAL MONITORING REQUIREMENTS

A. FLOW MONITORING

Hydraulic flow rates shall be measured at the monitoring points specified in this MRP. All flow monitoring systems shall be appropriate for the conveyance system (i.e., open channel flow or pressure pipeline) and liquid type. Flow measurements shall be based on flow meter readings unless specifically stated otherwise. The method of measurement must be specified. Unless otherwise specified, each flow meter shall be equipped with a flow totalizer to allow reporting of cumulative volume as well as instantaneous flow rate. Flow meters shall be calibrated at the frequency recommended by the manufacturer; typically, at least once per year and records of calibration shall be maintained for review upon request.

B. MONITORING AND SAMPLING LOCATIONS

Samples and measurements shall be obtained at the monitoring points specified in this MRP. Central Valley Water Board staff shall approve any proposed changes to sampling locations prior to implementation of the change. The Discharger shall monitor the following locations to demonstrate compliance with the requirements of this MRP:

Table 1 – Monitoring Locations

Monitoring Location	Monitoring Location Description
EFF-001	EFF-001 – Location where a representative sample of the auger discharge (Waste Stream 1) can be obtained prior to discharge to the unlined pond (PND-001).
EFF-002	EFF-002 – Location where a representative sample of the reverse osmosis (RO) brine water (Waste Stream 2) can be obtained prior to discharge to PND-002.
PND-001, PND-002, & PND-003	PND-001 – Existing onsite unlined auger discharge pond PND-002 – Proposed lined RO brine storage pond PND-003 – Existing onsite lined storage pond (for the discharge of floor drains, equipment condensate, cogeneration, and boiler blowdown [Waste Stream 3) Any future effluent storage ponds added shall be identified/numbered similarly.
SPL-001	Source water supply well.
LAA-001	LAA-001 - Proposed 45-acre land application area and any future LAAs.
SOIL-001	Soil Monitoring from each field/management unit within LAA-001.
SOLIDS	Solids Monitoring.

C. SAMPLING AND SAMPLE ANALYSIS

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. Except as specified otherwise in this MRP, grab samples will be considered representative of water, wastewater, soil, solids/sludges and groundwater. The time, date, and location of each sample shall be recorded on the sample chain of custody form.

Field test instruments (such as those used to measure pH, temperature, electrical conductivity, dissolved oxygen, 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.

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* (EPA);
- *Test Methods for Evaluating Solid Waste* (EPA);
- *Methods for Chemical Analysis of Water and Wastes* (EPA);
- *Methods for Determination of Inorganic Substances in Environmental Samples* (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 approved for use by the United States Environmental Protection Agency (EPA) or the State Water Resources Control Board (State Water Board), Division of Drinking Water's Laboratory Accreditation Program (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.

II. SPECIFIC MONITORING REQUIREMENTS

A. EFFLUENT MONITORING (EFF-001, EFF-002)

The Discharger shall monitor each process wastewater discharge at Monitoring Locations EFF-001 (auger discharge) and EFF-002 (RO brine) separately as specified below in Table 2. Samples shall be representative of the volume and nature of the discharge. Time of collection of all samples shall be recorded. Effluent monitoring shall include at least the following:

Table 2 – Effluent Monitoring (EFF-001, EFF-002)

Constituent/Parameter	Units	Sample Type	Frequency
Flow	mgd	Metered	Continuous
pH	Std. units	Grab	2/Month
EC	µmhos/cm	Grab	2/Month
BOD_5	mg/L	Grab	1/Month
Nitrate (as N)	mg/L	Grab	1/Month
Ammonia (as N)	mg/L	Grab	1/Month
TKN	mg/L	Grab	1/Month

Constituent/Parameter	Units	Sample Type	Frequency
Total Nitrogen	mg/L	Grab or calculation	1/Month
TDS	mg/L	Grab	1/Month
FDS	mg/L	Grab	1/Month
TSS	mg/L	Grab	1/Month
General Minerals (see 1 below)	mg/L or µg/L	Grab	1/Quarter

1. For list of General Minerals see Glossary. Samples for metals shall be filtered prior to preservation, digestion, and analysis using a 1.5-micron filter.

B. POND MONITORING (PND-001, PND-002, AND PND-003)

The Discharger shall monitor the storage ponds at Monitoring Locations PND-001, PND-002, and PND-003 when wastewater is present. Any additional wastewater ponds added shall also be monitored per this section and Table 3 below. Freeboard shall be measured to the nearest 0.1 foot vertically from the surface of the water to the lowest elevation of the berm or point of overflow, whichever is lower. Water quality samples shall be collected at a depth of one foot below the surface of the water opposite the inlet. At a minimum, the pond shall be monitored as specified in Table 3:

Table 3 – Effluent Storage Pond Monitoring

Constituent/Parameter	Units	Sample Type	Frequency
DO	mg/L	Grab	1/Month (see 1 and 2 below)
pH	Std. units	Grab	2/Month (see 1 and 2 below)
EC	µmhos/cm	Grab	2/Month
Freeboard	Nearest 0.1 Foot	Observation	1/Week
Odors	---	Observation	1/Week (see 2 below)
Solids Depth (see 3 below)	Nearest 0.1 Feet	Observation	1/Year in October
Liner Condition (see 4 below)	---	Observation	1/Year

1. Samples for DO and pH shall be collected between 8:00 am and 10:00 a.m. when there is more than one foot of water in 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 by or brought to the attention of the Discharger, the Discharger shall monitor the potential source pond at least daily (excluding weekends and holidays) for DO, pH, and odors until the odor issue has been resolved and the DO in the pond is greater than 1 mg/L.
3. Thickness of settled solids at the bottom of the pond(s).
4. The Discharger shall conduct the pond monitoring detailed in the Storage Pond's Operation and Maintenance Plan required per the WDRs Order (Provision 7).

C. SOURCE WATER MONITORING (SPL-001)

The source water for Facility operations shall be monitored. Samples shall be representative of the source water supplied to the Facility before treatment (if any). If the source water is from more than one source, the results shall be presented as a flow-weighted average of all sources. Source water monitoring shall include at least the following:

Table 4 – Source Water Monitoring (SPL-001)

Constituent/Parameter	Units	Sample Type	Frequency
EC	µmhos/cm	Grab	1/Quarter
Nitrate (as N)	mg/L	Grab	1/Year
FDS	mg/L	Grab	1/Year

D. LAND APPLICATION AREA (LAA-001)

The Discharger shall inspect LAA-001 at least once daily prior to and during irrigation events. Evidence of erosion, field saturation, runoff, or the presence of nuisance conditions (i.e., flies, ponding, etc.) shall be noted in the Facility's logbook and included as part of the annual monitoring report. In addition, the Discharger shall perform the following routine monitoring and loading calculations for each discrete irrigation area within the LAA each day when wastewater is applied. The data shall be collected and presented in graphical (map) and/or tabular format and shall include the following:

Table 5 - Land Application Area (LAA) Monitoring

Parameter	Units	Sample Type	Frequency
Fields Irrigated	Acres	---	Daily (see 1 below)
Wastewater Flow	Gallons	Metered	Daily (see 1 below)
Wastewater Loading	Inches/day	Calculated	Daily (see 1 below)
Supplemental Irrigation	Gallons	Metered	Daily (see 1 below)

Parameter	Units	Sample Type	Frequency
Supplemental Irrigation loading	Inches/day	Calculated	Daily (see 1 below)
Precipitation	Inches/day	Rain gauge (see 2 below)	Daily (see 1 below)
Total Hydraulic Loading (see 3 below)	Inches per acre month	Calculated	1/Month
BOD Loading (see 4 below)			
Daily Loading	lbs/acre	Calculated	Daily (see 1 and 5 below)
Cycle Average (see 5 below)	lbs/ac/day	Calculated	Cycle
Nitrogen Loading (see 4 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 Loading (see 4 below)			
From wastewater	lbs/ac/year	Calculated	1/Year
From supplemental irrigation water	lbs/ac/year	Calculated	1/Year

1. Daily when wastewater is being applied to the LAAs.
2. National Weather Service or CIMIS data from the nearest weather station is acceptable.
3. Combined loading from wastewater, irrigation water, and precipitation.
4. The BOD, nitrogen, and salt loading shall be calculated as specified in Section III of the MRP.
5. See section III.A.4.b. of this MRP for the calculation of BOD Cycle Average Loading.

E. SOIL MONITORING (SOIL-001)

The Discharger shall establish, with the concurrence of Central Valley Water Board staff, two representative soil profile monitoring locations within the land application areas and at least one representative background location(s) (i.e., that historically have not received process wastewater). The Discharger shall submit a map to the Central Valley Water Board with the proposed sample locations no fewer than **60 days prior to the first soil sampling event** for review and approval. The samples

shall be collected from the ground surface (depths of 0.5 feet or 6 inches), 2, 4, and 6 feet bgs, All samples shall be analyzed for the constituents and frequencies specified in the following table:

Table 6 – Soil Monitoring

Constituent/Parameter	Units	Sample Type	Frequency
Soil pH	Standard pH Units	Grab	1/Year
Buffer pH	mg/kg as $CaCO_3$	Grab	1/Year
Sodium	mg/kg	Grab	1/Year
Chloride	mg/kg	Grab	1/Year
Nitrate as N	mg/kg	Grab	1/Year
TKN	mg/kg	Grab	1/Year
Total Nitrogen	mg/kg	Grab	1/Year

F. SOLIDS MONITORING

The Discharger shall maintain detailed records for disposal and/or recycling of residual solids removed from the Facility. The record should include information on quantity, storage, method of disposal (i.e., livestock feed, soil amendment, composting, etc.) and receipts (if applicable). A summary of the information shall be included in the Annual Report.

III. REPORTING REQUIREMENTS

All monitoring reports should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to*: centralvalleyfresno@waterboards.ca.gov*. Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to the following address:

Central Valley Regional Water Quality Control Board
Region 5 – Fresno Office
1685 “E” St.
Fresno, California 93706

To ensure that your submittal is routed to the appropriate staff person, the following information should be included in the body of the email or transmittal sheet:

Program: Non-15
Facility: CEFF II Tehachapi Greenhouse
Order: MRP R5-2024-00XX
County: Kern
Place ID: 857214

A transmittal letter shall accompany each monitoring report. The letter shall include a discussion of all violations of this MRP during the reporting period and actions taken or planned for correcting each violation. If the Discharger has previously submitted a report describing corrective actions taken and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain a statement by the Discharger or the Discharger's authorized agent certifying under penalty of perjury that the report is true, accurate and complete to the best of the signer's knowledge.

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, groundwater, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

Laboratory analysis reports shall be included in the monitoring reports. All laboratory reports must also be retained for a minimum of three years. For a discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

Monitoring information shall include the method detection limit (MDL) and the Reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

All monitoring reports that involve planning, investigation, evaluation or 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.

A. QUARTERLY MONITORING REPORTS

Quarterly monitoring reports shall be prepared and submitted to the Central Valley Water Board by the **1st day of the second month after the quarter** (i.e., the 1st Quarter [January – March] quarterly report is due 1st May). Each Quarterly Monitoring Report shall include the following:

1. Results of the **Effluent Monitoring** as specified in Section II.A, including:

    a. Calculation of the maximum daily and monthly average flow for each month of the quarter.

    b. Calculation of the 12-month rolling average FDS of the discharge for each month of the quarter using the FDS value for that month averaged with the FDS values for the previous 11 months.

2. Results of the **Pond Monitoring** as specified in Section II.B.

3. Results of the **Source Water Monitoring** as specified in Section II.C. If the source water supply is from more than one source, the Discharger shall calculate the flow-weighted average concentration for each constituent monitored (include supporting calculations).

4. Results of the **Land Application Area Monitoring** as specified in Section II.D.

   a. A summary of the LAA inspection activities conducted by the Discharger.

   b. Calculate the cycle average BOD_5 loading rates for the LAA.

      The mass of BOD_5 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_5 applied to each discrete LAA field in lbs/ac/day

C = Concentration of BOD_5 in mg/L based on the average concentration for the month

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

A = Area of the LAA field in 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.

5. Results of **Soil Monitoring** as specified in Section II.E.

6. Copies of all laboratory analytical reports.

All quarterly reports shall include summary data tables of analytical results and observations collected or conducted during the quarter.

B. FOURTH QUARTER MONITORING REPORT

In addition to the above information, the fourth quarter monitoring report, due **1st February of each year,** shall include the following:

1. Total annual effluent flow and the average monthly flows for EFF-001 and EFF-002 for each month of the year expressed as millions of gallons per day.

2. For the LAA, a chronological log of dates of fertilizer application, residual solids application, irrigation, precipitation, and runoff control operations. Nitrogen and salt loading calculations shall be included as follows:

    a. The mass of total nitrogen and FDS applied to each LAA on an annual basis shall be calculated using the following formula and compared to published crop demand for the crops grown:

$$M = \sum_{i=1}^{12} \frac{(8.345(C_i V_i) + M_x)}{A}$$

Where: M = Mass of total nitrogen/FDS applied to each discrete LAA field in lbs/ac/year

C_i = Flow-weighted average concentration of total nitrogen/FDS for the month in mg/L of the blended wastewater and irrigation water

V_i = Total volume of wastewater applied to the LAA field(s) during the irrigation cycle, in millions of gallons

A = Area of the LAA field irrigated in acres

I = The number of the month (e.g., January = 1, February = 2, etc.)

M_x = Nitrogen/FDS from other sources (e.g., fertilizer and compost) in pounds

3. The types of crop(s) grown, planting and harvest dates, and the quantified nitrogen and fixed dissolved solids uptakes including potassium (as estimated by technical references or, preferable, defined by representative plant tissue analysis).

4. Calculation of the annual average FDS for Monitoring Location EFF-001 and EFF-002. Include a comparison of the annual average concentration to the Performance-Based Effluent Limit specified in the WDRs.

5. Tabular and graphical summaries of all data collected during the year.

6. Names, title, and contact information for persons to contact regarding the Facility for emergency and routine situations.

7. A summary of the handling and disposal of solids removed from the Facility during the calendar year as specified in Section II.F.

8. A discussion of annual chemical usage at the Facility (e.g., chemical name, purpose, and quantity used).

9. A summary of any changes in processing that might affect waste characterization and/or discharge flow rates.

10. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program.

11. Statement certifying when the flow meter and other monitoring instruments and devises were last calibrated, include identification of who performed the calibrations (SPRRs C.4).

12. A discussion of compliance and corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the WDRs Order.

If, in the opinion of the Executive Officer, the Discharger fails 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.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Resources Control Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Resources Control Board must receive the petition by 5:00 p.m., 30 days after the date of this MRP, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Resources Control Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the internet (http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided on request.

The Discharger shall implement the above monitoring program **starting 1 September 2024**.

I, PATRICK PULUPA, Executive Officer, do hereby certify the forgoing is a full, true and correct copy of the Monitoring and Reporting Program R5-2024-00XX issued by the California Regional Water Quality Control Board, Central Valley Region, on XX August 2024.

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PATRICK PULUPA, Executive Officer

IV. GLOSSARY

BOD_5	Five-day biochemical oxygen demand
CaCO3	Calcium carbonate
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
LAA	Land application area
TDS	Total dissolved solids
TKN	Total Kjeldahl nitrogen
TSS	Total suspended solids
Continuous	The specified parameter shall be measured by a meter continuously.
24-hr Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots over a 24-hour period.
Daily	Once per day.
1/Week	Once per week.
1/Month	Once per month.
2/Month	Twice per month in non-consecutive weeks.
1/Quarter	Once per quarter.
2/Year	Once every six calendar months (i.e., two times per year) in non-consecutive quarters unless otherwise specified.
1/Year	Once per year.
mg/L	Milligrams per liter
mg/kg	Milligrams per kilogram
mL/L	Milliliters [of solids] per liter
µg/L	Micrograms per liter
µmhos/cm	Micromhos per centimeter
gpd	Gallons per day
mgd	Million gallons per day
MPN/100 mL	Most probable number [of organisms] per 100 milliliters
s.u.	Standard pH units
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, total dissolved solids, and verification that the analysis is complete (i.e., cation/anion balance).