CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2017-XXXX

FOR

MONARCH NUT COMPANY, LLC
MONARCH NUT COMPANY
TULARE COUNTY

This Monitoring and Reporting Program (MRP) incorporates requirements for wastewater discharge monitoring for Monarch Nut Company. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

All wastewater samples shall be representative of the volume and nature of the discharge. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Field test instruments (such as pH, electrical conductivity, and dissolved oxygen) may be used provided that:

1. The operator is trained in the proper use of the instrument;
2. The instruments are field calibrated prior to each use;
3. 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 or the California Department of Public Health's Environmental 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.

FLOW MONITORING

Hydraulic flow rates shall be measured at the flow meter location specified in this MRP and depicted on Attachment F in the WDRs. Central Valley Water Board staff shall approve any proposed changes to flow monitoring location prior to implementation of the change. All flow monitoring systems shall be appropriate for the conveyance system (i.e., open channel flow or pressure pipeline) and liquid type. Unless otherwise specified, the flow meter shall be equipped with a flow totalizer to allow reporting of cumulative volume as well as instantaneous flow rate. The flow meter 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. Flow rates to the Wastewater Lagoon shall be monitored as follows:

Parameter	Units	Type of Measurement	Sampling Frequency	Reporting Frequency
Influent Flow Meter (to Wastewater Lagoon)	Gallons	Meter Reading	Daily	Quarterly

INFLUENT WASTEWATER MONITORING

Wastewater samples shall be collected at a point after solids screening in Vault 1 and prior to discharging to the Wastewater Lagoon and shall be considered representative of wastewater quality. Sampling shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Nitrate as Nitrogen	mg/L	Grab	Monthly	Quarterly
Total Nitrogen	mg/L	Grab	Monthly	Quarterly
BOD_5 [1]	mg/L	Grab	Monthly	Quarterly
Fixed Dissolved Solids	mg/L	Grab	Monthly	Quarterly
pH	Standard	Grab	Monthly	Quarterly
Electrical Conductivity	µmhos/cm	Grab	Monthly	Quarterly
Metals/Inorganics [2]	µg/L	Grab	Annually	Annually

[1] Five-day, 20º Celsius biochemical oxygen demand.

[2] All samples shall be filtered prior to preservation. Metal/Inorganics analyses include, at a minimum, the following: calcium, chloride, potassium, dissolved iron, dissolved magnesium, dissolved manganese, sodium, and sulfate.

WASTEWATER LAGOON MONITORING

The Wastewater Lagoon shall be monitored as specified below:

Parameter	Units	Sample Type	Monitoring Frequency	Reporting Frequency
Presence/Absence of Water	--	Observation	Weekly	Quarterly
Presence of leachate in LCRS	--	--	Weekly	Quarterly
Volume of leachate removed	gallons	Measurement	Weekly	Quarterly
Freeboard [1]	0.1 feet	Measurement	Weekly	Quarterly
Dissolved Oxygen	mg/L	Measurement	Weekly	Quarterly
Odors	--	Observation	Weekly	Quarterly
Berm condition	--	Observation	Weekly	Quarterly

[1] Freeboard shall be measured vertically from the surface of the pond water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.1 feet.
LRCS = Leakage Collection and Return System

In addition, the Discharger shall inspect the condition of the lagoon once per every two weeks and document visual observations. Notations shall include observations of:

- Presence of weeds in the water or along the berm;
- Accumulations of dead algae, vegetation, scum, or debris on the pond surface;
- Animal burrows in the berms;
- Evidence of seepage from the berms or downslope of the ponds;

LAND APPLICATION AREA MONITORING

The Discharger shall monitor the land application areas year-round and shall submit the results in the corresponding monthly monitoring reports. Monitoring of the land application areas shall include the following:

Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Total Acreage Applied [1]	Acres	Estimated	Monthly	Quarterly
BOD Loading Rate [2]	lbs/ac/day	Calculated	Monthly	Quarterly
Nitrogen Loading Rate [3]	lbs/ac/mo [4]	Calculated	Monthly	Quarterly
Flow Weighted FDS Loading Rate	lbs/ac/mo [4]	Calculated	Monthly	Quarterly
LAA Soil Condition [5]	NA	Inspection	Monthly	Quarterly
Crop Type	NA	Inspection	Annually	Annually
Condition of Containment Berms	NA	Inspection	Monthly	Quarterly

Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Nuisance Conditions	NA	Inspection	Monthly	Quarterly
Evidence of Erosion	NA	Inspection	Monthly	Quarterly
Any Corrective Action Taken (based on observations)	NA	Inspection	Monthly	Quarterly

[1] If only a portion of the LAA is used, then the application acreage shall be estimated.
[2] Calculate the cycle average application rates, based on the most recent BOD influent results.
[3] Total nitrogen applied from all sources, including wastewater fertilizers, compost, and supplemental irrigation water if used.
[4] Report monthly total and cumulative annual to date.
[5] LAA soil conditions (saturated or unsaturated) shall be determined prior to wastewater application.

At least **once per week** during the processing season when wastewater is being applied to the land application areas, the entire application area shall be inspected to identify any equipment malfunction or other circumstance that might allow irrigation runoff to leave the area and/or create ponding conditions that violate the Waste Discharge Requirements. A log of these inspections shall be kept at the facilities and be submitted with the monthly monitoring reports. If wastewater was not applied to the land application area, then the monthly monitoring reports shall so state.

SOLIDS MONITORING

The Discharger shall monitor the solids generated and disposed of on a monthly basis. The following shall be monitored and reported monthly:

1. Volume of solids generated. Solids may include pomace, seeds, stems, diatomaceous earth, screenings, and sump/clarifier solids, or other material.
2. Volume disposed of on- and off-site. Describe the location the solids are stored, disposal method (e.g. animal feed, land application, off-site composting, landfill, etc.), the amount disposed (tons), the name of the hauling company, and the location where the material was transported.

EFFLUENT AND MASS LOADING CALCULATIONS

The mass of BOD applied to each LAA as an irrigation cycle average shall be calculated using the following formula:

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

Where:

M	=	mass of BOD applied to an LAA in lb/ac/day
C	=	concentration of BOD in mg/L based on the most recent monitoring result
V	=	total volume of wastewater applied to the LAA during the irrigation cycle, in millions of gallons
A	=	area of the LAA irrigated in acres
T	=	irrigation cycle length in days (from the first day water was applied to the last day of the drying time)
8.345	=	unit conversion factor

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

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

Where:

M	=	mass of nitrogen applied to LAA in lb/ac/yr
C_i	=	monthly average concentration of total nitrogen for month *i* in mg/L
V_i	=	volume of wastewater applied to the LAA during calendar month *i* in million gallons
A	=	area of the LAA irrigated in acres
i	=	the number of the month (e.g., January = 1, February = 2, etc.)
M_x	=	nitrogen mass from other sources (e.g., fertilizer and compost) in pounds
8.345	=	unit conversion factor

The mass of wastewater fixed dissolved solids applied to the LAA on an annual basis shall be calculated using the following formula and compared to the FDS loading rate limit:

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

Where:

M = Mass of FDS applied to LAA in lbs/ac/yr
C_i = Monthly average concentration of FDS for month in *i* in mg/L
V_i = Volume of wastewater applied to the LAA during the calendar month in *i* in million gallons
A = Area of LAA irrigated in acres
i = The number of the month (e.g., January – 1, February = 2, etc.)
8.345 = Unit conversion factor

REPORTING

All monitoring reports should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50 MB should be emailed to: centralvalleyfresno@waterboards.ca.gov.

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

Attention: Compliance/Enforcement Section
Monarch Nut Company
Tulare County
Place ID: 241216

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
ECM Mailroom
1685 E Street
Fresno, CA 93706-2020

To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any correspondence used to transmit documents to this office:

Facility Name: Monarch Nut Company, Tulare County		
Program: Non-15	Order: R5-2017-XXXX	CIWQS Place ID: 241216

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., wastewater monitoring, 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.

As required by the California Business and Professions Code sections 6735, 7835, and 7835.1, all Monitoring Reports shall be prepared under the direct supervision of a Registered Professional Engineer or Geologist and signed by the registered professional.

A. Quarterly Monitoring Reports

Daily, weekly, and monthly monitoring data shall be reported in quarterly monitoring reports. Monthly reports shall be submitted to the Central Valley Water Board on the **1st day of the second month after the quarter** (i.e. the January-March quarterly report is due by 1 May). At a minimum, the reports shall include:

1. Tabulated wastewater flow monitoring data for each month of the calendar year, including average daily flow, cumulative flow to date, and comparison to the Flow Limitations of the WDRs;
2. Results of Wastewater Lagoon monitoring. If any water is shipped off-site due to a lack of capacity, such as the LAA is saturated, the volume of water and receipts from the licensed receiving facility shall be included in the monthly reports;
3. Results of Land Application Area Monitoring when land applying, and include:
    a. Calculated irrigation cycle average BOD loading rate for each LAA and irrigation cycle;
    b. Type of crop planted and harvest dates; and
    c. Crop nitrogen demand and amount of supplemental nitrogen applied to the LAA.
4. Results of Solids Monitoring;
5. Discharge specifications and an explanation of any violation of those requirements;
6. For each discrete LAA, a comparison of monitoring data to the loading rate limitations and discharge specifications and an explanation of any violation of those requirements;
7. If requested by staff, copies of laboratory analytical report(s); and
8. Copies of current calibration logs for all field test instruments.

B. Annual Monitoring Reports

An Annual Monitoring Report shall be submitted to the Central Valley Water Board by **1 February** each year. The Annual Monitoring Report shall include the following:

1. Calculation of the annual average wastewater monitoring results for all monitored wastewater constituents.
2. Calculated total nitrogen and FDS loading rates for the LAA.
3. Results of the supplemental irrigation water monitoring.

4. A detailed description of any operational changes, new water treatment systems that might affect the character of the wastewater, and changes to the equipment cleaning process.
5. If requested by staff, tabular and graphical summaries of all data collected during the year with data arranged to confirm compliance with the WDRs.
6. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
7. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
8. Whether any expansion of the water treatment plant's capacity is planned or anticipated in the next calendar year.

A letter transmitting the self-monitoring reports shall accompany each report. The letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facilities modifications. If the Discharger has previously submitted a report describing corrective actions 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, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

_____
(Date)

DMC: XXXXXX