CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2017-XXXX
FOR
J.G. BOSWELL COMPANY
CORCORAN TOMATO PROCESSING FACILITY
KINGS COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to California Water Code (CWC) section 13267.

The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP. Changes to sample location shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. All analyses shall be performed in accordance with ***Standard Provisions and Reporting Requirements for Waste Discharge Requirements***, dated 1 March 1991 (Standard Provisions).

Field test instruments (such as pH) may be used provided that the operator is trained in the proper use of the instrument and each instrument is serviced and/or calibrated at the recommended frequency by the manufacturer or in accordance with manufacturer instructions.

Analytical procedures shall comply with the methods and holding times specified in the following: *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 State Water Resources Control Board Environmental Laboratory Accreditation Program. The Discharger may propose alternative methods for approval by the Executive Officer.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

A glossary of terms used within this MRP is included on page 8.

The Discharger shall monitor the following locations to demonstrate compliance with the requirements of this Order:

Monitoring Point Name	Monitoring Location Description
DIS-01	During the processing season (typically about 90 days from mid-July through mid-September), a location where the volume/flow of the blended wastewater can be measured prior to discharge to the wastewater retention pond (DIS-01).
EFF-01	Location where a representative water quality sample of the blended wastewater/freshwater can be obtained prior to discharge to the land application areas (EFF-01).
SW-1, SW-2, and SW-3	Location where a representative sample of the various source waters (J.G. Boswell irrigation wells [SW-1], and canal water [SW-2]) can be measured prior to blending with the wastewater in the Facility sump. The City of Corcoran (SW-3) does its own sampling and the results of those tests may be used in lieu of direct sampling.

EFFLUENT/IRRIGATION WATER MONITORING

During the processing season (typically from mid-July through mid-September), the Discharger shall monitor the volume of blended wastewater and irrigation water (from any source) discharged to the collection sump within the facility at DIS-01. During the remainder of the year (non-processing season), the Discharger shall calculate the volume of the irrigation water discharged to the land application areas that received the blended wastewater.

During the processing season, the Discharger shall monitor the discharge of effluent at EFF-01 for the constituents listed below. The wastewater samples shall be representative of the volume and nature of the discharges. Time of collection of the samples shall be recorded. Wastewater monitoring shall include at least the following:

Frequency[1]	Constituent/Parameter	Units[2]	Sample Type
Continuous	Flow[3]	mgd	Meter
Daily	pH	pH Units	Grab
Weekly	Electrical Conductivity	umhos/cm	24-hour composite[4]
Monthly	Total Dissolved Solids	mg/L	24-hour composite[4]
Monthly	Fixed Dissolved Solids	mg/L	24-hour composite[4]
Monthly	Biochemical Oxygen Demand	mg/L	24-hour composite[4]
Monthly	Total Suspended Solids		
Monthly	Nitrate as Nitrogen	mg/L	24-hour composite[4]
Monthly	Ammonia as Nitrogen	mg/L	24-hour composite[4]
Monthly	Total Kjeldahl Nitrogen	mg/L	24-hour composite[4]
Monthly	Total Nitrogen	mg/L	24-hour composite[4]
Annually	General Minerals	mg/L[5]	24-hour composite[4]

[1] The frequency listed is for the discharge during the processing season (July through October) only.

[2] mgd = million of gallons per day; umhos/cm = micromhos per centimeter; mg/L = milligrams per liter.

[3] Flow shall be measured using a magnetic or ultrasonic flow meter.

[4] Unless otherwise approved, 24-hour composite samples shall be collected using a composite wastewater sampler synchronized with a flow meter to take flow proportional (volumetric) samples. While being composited samples shall be refrigerated at 4 ºC (39.2 ºF).

[5] mg/L or ug/L, as appropriate

SOURCE WATER MONITORING

The Discharger shall collect source water samples from its source water sources (J.G. Boswell wells and canal water at SW-1 and SW-2 and analyze them for the constituents specified in the following table. If the source water is from more than one source (surface and/or groundwater), the results shall also be presented as a flow weighted average of all the sources used. The City of Corcoran is required to test its water as it is the source of drinking water for the community of Corcoran. The Discharger may use recent analytical results supplied by the City of Corcoran in lieu of sampling the City's water supply directly.

Frequency	Constituent/Parameter	Units	Sample Type
Annually	EC	mg/L	Grab
Annually	TDS	TDS	Grab
Annually	Nitrate as Nitrogen	mg/L	Grab
Annually	Total Kjeldahl Nitrogen	mg/L	Grab
Annually	Total Nitrogen	mg/L	Grab

LAND APPLICATION AREA MONITORING

The Discharger shall monitor the land application areas daily while wastewater is being discharged and weekly during non-application periods within the processing season. The volume of the blended wastewater applied to the land application areas will be monitored at DIS-001. The monitoring report shall estimate the volume of the blended wastewater applied, the specific parcels to which it is applied, the acreage to which it is applied, and the type of crops grown on each parcel. This information shall be submitted as part of the annual monitoring report in addition to a map that shows the specific parcels that received Facility effluent.

In addition, the Discharger shall perform the following monitoring and loading calculations for each land application areas. If supplemental irrigation water is used, samples shall be collected from the irrigation well and/or canal (SW-1 and SW-2). The data shall be collected and presented in both a graphical (map) and tabular format and shall include the following:

Frequency	Constituent/Parameter	Units	Sample Type
Daily	Application area	Acres	n/a
Daily	Wastewater flow	Gallons	Metered
Daily	Wastewater loading	Inches/day	Metered
Daily	Supplemental irrigation	Inches/day	Metered
Daily	Precipitation	Inches	Rain gage[1]
Monthly	Total Hydraulic loading[2]	Inches/acre-month	Calculated
BOD Loading[3]			
Daily	Day of application	lbs/ac/day	Calculated
Cycle	Cycle average	lbs/ac/day	Calculated cycle average
Nitrogen loading[4]			
Annual	From wastewater	lbs/ac/yr	Calculated

Annual	From fertilizers	lbs/ac/yr	Calculated
Annual	From supplemental irrigation water	lbs/ac/yr	Calculated
Salt loading[4]			
Annual	From wastewater	lbs/ac/yr	Calculated
Annual	From supplemental irrigation water	lbs/ac/yr	Calculated

1. National Weather Service or CIMIS data from the nearest weather station is acceptable.
2. Combined loading from wastewater, irrigation water, and precipitation.
3. Loading rates to be calculated using the applied volume of wastewater, applied acreage, and average of the three most recent concentrations for BOD. The BOD loading rate shall be divided by the #days between applications to determine cycle average.
4. Nitrogen and salt loading shall be calculated using the applied volume of wastewater, applied acreage, and average of the three most recent results for total nitrogen and FDS, respectively.

In addition, the Discharger shall inspect the application areas and evidence of erosion, field saturation, runoff, or the presence of nuisance conditions (i.e., flies, ponding, etc.) shall be noted in field logs and included as part of the annual monitoring report.

REPORTING

All monitoring results shall be tabulated and submitted in an **Annual Monitoring Report,** which shall be due by **1 February** of the following year.

A transmittal letter shall accompany each monitoring report. The transmittal letter shall discuss any violations that occurred during the reporting period and all actions taken or planned for correcting violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory.

The Central Valley Water Board has gone to a Paperless Office System. All regulatory documents, submissions, materials, data, monitoring reports, and correspondence shall be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be mailed to: centralvalleyfresno@waterboards.ca.gov. Documents that are 50MB or larger should be transferred to a disc and mailed to the appropriate regional water board office, in this case 1685 E Street, Fresno, CA, 93706.

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

Program: Non-15, WDID: 5C16NC00126, Facility Name: Corcoran Tomato Processing Facility, Order: R5-2017-XXXX

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly, whether the Discharger complies with waste discharge requirements.

In addition to the details specified in Standard Provision C.3, 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.

Laboratory analysis reports do not need to be included in the monitoring reports; however, the laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3.

All monitoring reports shall comply with the signatory requirements in Standard Provision B.3. 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.

In the future, the State or Central Valley Water Board may notify the Discharger to electronically submit and upload monitoring reports using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site http://www.waterboards.ca.gov/ciwqs/index.html or similar system. Electronic submittal to CIWQS, when implemented, will meet the requirements of our Paperless Office System.

Annual Monitoring Reports shall include the following:

Wastewater Reporting:

1. The results of effluent monitoring specified on page 2.

2. For each month of operation, calculation of the maximum daily flow and the monthly average flows from the wastewater stream.

3. For each month of operation, calculation of the average EC of the discharges.

4. A summary of daily BOD loading rates.

Facility Information:

1. The names and general responsibilities of all persons in charge of wastewater handling and disposal.

2. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations.

3. A statement certifying when the flow meters and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (Standard Provision C.4).

4. A statement whether the current operation and maintenance manual, sampling plan, nutrient management plan, and contingency plan, reflect the Facility as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.

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

Source Water Reporting

1. For each annual period, the results of the source water monitoring specified on page 3. Results must include supporting calculations.

Solids Reporting

1. Annual production of totals solids (excluding trash and recyclables) in dry tons or cubic yards.

2. A description of disposal methods, including the following information related to the disposal methods used. If more than one method is used, include the percentage disposed of by each method.

    a. For landfill disposal, include: the name and location of the landfill, and the Order number of WDRs that regulate it.

    b. For land application, include: the location of the site, and the Order number of any WDRs that regulate it.

    c. For composting, include: the location of the site, and the Order number of any WDRs that regulate it.

    d. For animal feed, include: the volume sold as animal feed and to whom it was sold, and if applicable, the Order number of any WDRs that regulate it.

Land Application Area Reporting

1. The results of the monitoring and reporting and loading calculations specified on pages 3 and 4.

2. For each month that wastewater is applied to the land application areas, calculation of the monthly hydraulic load for wastewater and supplemental irrigation water in millions of gallons and/or acre-feet to each discrete irrigation area.

3. A summary of the notations made in the land application areas log during each month. The entire contents of the log do not need to be submitted.

4. For each month, calculation of the daily BOD cycle average using the BOD results for the month.

5. The type of crop(s) grown, planting and harvest dates, and the quantified nitrogen and fixed dissolved solids uptakes (determined by representative plant tissue analysis). Include any soil and/or tissue sampling results.

6. The monthly and annual discharge volumes during the reporting year expressed as million gallons and inches.

7. A monthly balance for the application period (processing season) and reporting year that includes:

    a. The average ET (observed evapotranspiration) – Information sources include California Irrigation Management Information System (CIMIS) http://www.cimis.water.ca.gov/

    b. Crop uptake

        i. Crop water utilization rates are available from a variety of publications available from the local University of California Davis extension office.

        ii. Irrigation efficiency – Frequently, engineers include a factor for irrigation efficiency such that the application rate is slightly greater than the crop utilization rate. A conservative design does not include this value.

8. A summary of daily and cycle average BOD loading rates.

9. The total pounds of nitrogen applied to the land application areas from all sources (wastewaters, fertilizers, and irrigation waters) as calculated from the sum of the monthly loading to the land application areas in lbs/ac/yr.

10. The total pounds of FDS that have been applied to the land application areas, as calculated from the sum of the monthly loadings to the land application areas in lbs/ac/yr.

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

Ordered by: _____

PAMELA C. CREEDON, Executive Officer

_____

(Date)

GLOSSARY

BOD_5	Five-day biochemical oxygen demand
CBOD	Carbonaceous BOD
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
NTU	Nephelometric turbidity unit
TKN	Total Kjeldahl nitrogen
TDS	Total dissolved solids
TSS	Total suspended solids
Continuous	The specified parameter shall be measured by a meter continuously.
24-Hour Composite	Unless otherwise specified or approved, samples shall be a flow-proportioned composite consisting of at least eight aliquots.
Daily	Samples shall be collected every day.
Twice Weekly	Samples shall be collected at least twice per week on non-consecutive days.
Weekly	Samples shall be collected at least once per week.
Twice Monthly	Samples shall be collected at least twice per month during non-consecutive weeks.
Monthly	Samples shall be collected at least once per month.
Bimonthly	Samples shall be collected at least once every two months (i.e., six times per year) during non-consecutive months
Quarterly	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.
Semiannually	Samples shall be collected at least once every six months (i.e., two times per year). Unless otherwise specified or approved, samples shall be collected in April and October.
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.
mg/L	Milligrams per liter
mL/L	Milliliters [of solids] per liter
µg/L	Micrograms per liter
µmhos/cm	Micromhos per centimeter
mgd	Million gallons per day
MPN/100 mL	Most probable number [of organisms] per 100 milliliters
General Minerals	Analysis for General Minerals shall include at least the following:

Alkalinity	Chloride	Sodium
Bicarbonate	Hardness	Sulfate
Calcium	Magnesium	TDS
Carbonate	Potassium	

General Minerals analyses shall be accompanied by documentation of cation/anion balance.