CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2010-XXXX

FOR
CAMPBELL SOUP SUPPLY COMPANY, LLC
CAMPBELL SOUP SUPPLY COMPANY DIXON FACILITY
SOLANO COUNTY

This Monitoring and Reporting Program (MRP) incorporates requirements for monitoring of tomato and vegetable processing wastewater, domestic wastewater, process wastewater ponds, a tailwater pond, land application areas, solids, and groundwater. 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 should 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. Land applied wastewater flow monitoring shall be conducted continuously using a flow meter and shall be reported in cumulative gallons per day.

Field test instruments (such as pH 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.

EFFLUENT PROCESS WASTEWATER MONITORING

Upon annual startup and continuing throughout the process season, processing wastewater samples shall be collected after being commingled in the lift pit and prior to discharge to the land application area. Monitoring shall include at least the following:

Constituents	Units	Type of Sample [1]	Sampling Frequency	Reporting Frequency [2]
Flow	gallons	Continuous	Daily	Monthly
Total Flow [3]	gallons	Continuous	Totalizer	Monthly
Biochemical Oxygen Demand [4]	mg/L	Composite	Monthly	Monthly
Nitrate as Nitrogen	mg/L	Composite	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Composite	Monthly	Monthly
Electrical Conductivity	umhos/cm	Composite	Monthly	Monthly
Total Dissolved Solids	mg/L	Composite	Monthly	Monthly
Fixed Dissolved Solids	mg/L	Composite	Monthly	Monthly
Sodium	mg/L	Composite	Monthly	Monthly

Constituents	Units	Type of Sample [1]	Sampling Frequency	Reporting Frequency [2]
Chloride	mg/L	Composite	Monthly	Monthly
Standard Minerals [5]	mg/L	Composite	Annually	Annually

[1] Continuous monitoring requires daily meter reading or automated data collection using a meter equipped with a totalizer. Composite samples require collection at regular intervals in proportion to the existing flow and combined to form a sample representative of flow over a period of time.
[2] Monthly monitoring reports are due to the Central Valley Water Board even if the plant is not operating.
[3] Total flow means the cumulative total for the calendar year.
[4] Five-day, 20° Celsius Biochemical Oxygen Demand.
[5] Standard minerals include the following: boron, calcium, iron, magnesium, manganese, potassium, sulfate, total alkalinity (including alkalinity series), and hardness.

PROCESS WASTEWATER POND MONITORING

All ponds associated with storage or handling of process wastewater, including Pond A (Settling Pond), Pond B and Pond C, shall be monitored whenever wastewater is present. If the ponds have not been used during the reporting period, and do not contain more than 2 feet of water, the report shall so state. Samples shall be collected from an established sampling station located in an area that will provide representative samples of the water in the pond. 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. Monitoring of the ponds shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency [1]	Reporting Frequency [2]
Presence/Absence of Water	--	Observation	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Freeboard	feet (±0.1)	Measurement	Weekly	Monthly
pH	pH Units	Grab	Weekly	Monthly
Dissolved Oxygen [3]	mg/L	Grab	Weekly	Monthly
Electrical Conductivity	umhos/cm	Grab	Monthly	Monthly
Biochemical Oxygen Demand	mg/L	Grab	Monthly	Monthly
Nitrate as Nitrogen	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Fixed Dissolved Solids	mg/L	Grab	Monthly	Monthly
Sodium	mg/L	Grab	Monthly	Monthly
Chloride	mg/L	Grab	Monthly	Monthly

[1] Samples shall be collected when more than 2 feet of wastewater is present.
[2] Monthly monitoring reports are due to the Central Valley Water Board even if the processing plant is not operating.
[3] Samples shall be collected at a depth of one foot, opposite the inlet. Samples shall be collected between 0700 and 0900 hours.

TAILWATER POND MONITORING

The Tailwater Pond shall be monitored when standing water is present during the operating season, which typically starts in March and ends in November. During the off season the monitoring report shall report whether the pond is being used for stormwater storage. If the pond has not been used during the reporting period the report shall so state. 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. Outflow from the Tailwater Pond to the land application area shall be reported as 'Tailwater Pond Flow' in the Land Application Area Monitoring section of this MRP. Monitoring of the Tailwater Pond shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency [1]	Reporting Frequency [2]
Presence/Absence of Water	--	Observation	Daily	Monthly
Odors	--	Observation	Daily	Monthly
Freeboard	feet (±0.1)	Measurement	Weekly	Monthly

[1] Monitoring shall occur when standing water is present during the operation season, which typically occurs from March to November.
[2] Monthly monitoring reports are due to the Central Valley Water Board even if the processing plant is not operating.
[3] Samples shall be collected at a depth of one foot, opposite the inlet. Samples shall be collected between 0700 and 0900 hours.

LAND APPLICATION AREA MONITORING

The Discharger shall monitor process wastewater discharged for irrigation to the land application area. Monitoring shall be conducted **daily during operation** and the results shall be included in the monthly monitoring report. Evidence of erosion, field saturation, runoff, or the presence of nuisance conditions shall be noted in the report. Loading rates for the land application areas shall be calculated. Monitoring of the land application areas shall include the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Process Wastewater Flow	Gallons	Continuous [1]	Daily	Monthly
Supplemental Irrigation Flow	Gallons	Calculated [2]	Daily	Monthly
Tailwater Pond Flow	Gallons	Calculated [2]	Daily	Monthly
Local Rainfall	Inches	Rain Gauge Observation [3]	Daily	Monthly
Acreage Applied [4]	Acres	Calculated	Daily	Monthly
Application Rate	gal/acre•day	Calculated	Daily	Monthly
BOD Loading Rate [5]	lbs/acre•day	Calculated	Daily	Monthly
Total Nitrogen Loading Rate [6]	lbs/acre•month [7]	Calculated	Monthly	Monthly
TDS Loading Rate	lbs/acre•month [7]	Calculated	Monthly	Monthly
FDS Loading Rate	lbs/acre•month [7]	Calculated	Monthly	Monthly
LAA Berm Condition	NA	Observation	Monthly	Monthly

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Crop Removal Mass	pounds	Estimated [8]	Monthly	Monthly

[1] Continuous monitoring requires daily meter reading or automated data collection and shall define the volume of wastewater discharged to the land application areas from the lift pit.
[2] Supplemental irrigation and tailwater pond flow volumes shall be metered or calculated.
[3] Using either a properly calibrated and maintained on-site rain gauge or daily results from an appropriately sited precipitation observation station operated by others (specify station name; location; owner; and data source contact information, e.g., internet address).
[4] Land Application Area(s) in use shall be identified by management unit name and the acreage provided. If a portion of an area is used, then the acreage shall be estimated.
[5] Calculate the daily application rate and the 18-day cycle average application rate.
[6] Total nitrogen applied from all sources, including fertilizers and supplemental irrigation water if used.
[7] Report the monthly-total and cumulative-annual to date.
[8] Report either the weight of crops harvested and removed or the crop consumption by grazing animals.

At least **once per week** 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 facility 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.

DOMESTIC WASTEWATER DISCHARGE[1]

DOMESTIC EFFLUENT MONITORING

The Discharger shall monitor effluent wastewater in accordance with the following. Samples shall be representative of the effluent discharged to the percolation/evaporation ponds. Grab samples are considered representative. Effluent monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Biochemical Oxygen Demand	mg/L	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Electrical Conductivity	umhos/cm	Grab	Monthly	Monthly
Total Suspended Solids	mg/L	Grab	Monthly	Monthly
Sodium	mg/L	Grab	Monthly	Monthly
Chloride	mg/L	Grab	Monthly	Monthly
pH	pH Units	Grab	Monthly	Monthly
Total Nitrogen (as N)	mg/L	Grab	Monthly	Monthly

DOMESTIC WASTEWATER POND MONITORING

The Discharger shall monitor the domestic wastewater ponds as follows. Samples shall be collected from permanent monitoring locations that will provide samples representative of the wastewater in each pond. Freeboard shall be measured vertically from the water surface to the lowest elevation of the pond berm, and shall be measured to the nearest 0.10 feet. Pond monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Presence/Absence of Water	--	Observation	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Pond Berm Condition	pH Units	Observation	Weekly	Monthly
Burrowing Animals [1]	umhos/cm	Observation	Weekly	Monthly
Freeboard	feet (±0.1)	Measurement	Weekly	Monthly
Dissolved Oxygen [2]	mg/L	Grab	Monthly	Monthly

[1] The presence or absence of burrowing animals or animal burrows shall be noted.
[2] Samples shall be collected at a depth of one foot, opposite the inlet. Samples shall be collected between 0700 and 0900 hours.

[1] Domestic wastewater monitoring is required until the Discharger acquires a domestic wastewater disposal permit from Solano County. Domestic wastewater pond monitoring is required if a county permit is not acquired and until the disposal system has been converted to a subsurface leachfield system and disposal to the ponds has ceased.

SOLIDS MONITORING

The Discharger shall record and report annually the date, quantity, drying location, storage location, disposal location, and method of disposal of solids disposed of during the processing season, as well as during the off-season, if applicable. If solid waste is shipped offsite during the reporting period, then an estimated amount and location of disposal shall be reported in the monthly report and the hauler identified.

GROUNDWATER MONITORING

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Central Valley Water Board for approval. Once installed, all new wells shall be added to the monitoring network (which currently consists of Monitoring Wells Nos. MW-1, MW-2, and MW-3) and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved EPA methods. Water table elevations shall be calculated to determine groundwater gradient and direction of flow.

Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Depth to Groundwater	±0.01 feet	Measurement	Quarterly	Quarterly
Groundwater Elevation[1]	±0.01 feet	Calculated	Quarterly	Quarterly
Gradient	feet/feet	Calculated	Quarterly	Quarterly
Gradient Direction	Degrees	Calculated	Quarterly	Quarterly
pH	pH units	Grab	Quarterly	Quarterly
Boron	mg/L	Grab	Quarterly	Quarterly
Chloride	mg/L	Grab	Quarterly	Quarterly
Iron	mg/L	Grab	Quarterly	Quarterly
Manganese	mg/L	Grab	Quarterly	Quarterly
Sodium	mg/L	Grab	Quarterly	Quarterly
Total Nitrogen	mg/L	Grab	Quarterly	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Quarterly	Quarterly
Ammonia (as NH_4)	mg/L	Grab	Quarterly	Quarterly
Bromoform	ug/L	Grab	Quarterly	Quarterly
Bromodichloromethane	ug/L	Grab	Quarterly	Quarterly
Chloroform	ug/L	Grab	Quarterly	Quarterly
Dibromochloromethane	ug/L	Grab	Quarterly	Quarterly
Total Kjeldahl Nitrogen	mg/L	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Fixed Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Electrical Conductivity	umhos/cm	Grab	Quarterly	Quarterly

[1] Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well.
[2] Sampling may cease if constituent are not detected after four quarters of sampling

REPORTING

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

Reporting domestic wastewater effluent and pond monitoring data is required until disposal ceases to the domestic wastewater ponds and the disposal system has been converted to a subsurface leachfield system.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all groundwater monitoring reports shall be prepared under the direct supervision of a registered professional engineer or geologist and signed and stamped by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board by the **1st day of the second month** following the end of the reporting period (i.e. the January monthly report is due by 1 March), even if processing does not occur during that month. Monthly reports for the months of March, June, September, and December may be submitted as part of the Quarterly Monitoring Report, if desired. The monthly reports shall include the following:

1. Results of processing wastewater, domestic wastewater, pond, land application area, and solids monitoring;
2. Status updates for the domestic wastewater treatment system conversion from pond disposal to septic tank treatment with leachfield disposal. Updates shall include the permitting status with Solano County until this conversion is complete by 1 April 2011.
3. A comparison of monitoring data to the discharge specifications and effluent limitations, disclosure of any violations of the WDRs, and an explanation of any violation of those requirements. Data shall be presented in tabular format. An average concentration of FDS in treated wastewater shall be calculated based on the following:
    i. On a month to month basis beginning each year in January the simple arithmetic average value shall be calculated. (The sum of all the concentration data shall be divided by the number of months data was collected). If for any reason, more than one data point is available for any month, that data shall be averaged before use in the running average calculation. No data shall be excluded from the calculation without a written explanation from the analytical laboratory.
4. If requested by staff, copies of laboratory analytical report(s);
5. A calibration log verifying calibration of all hand held monitoring instruments and devices used to comply with the prescribed monitoring program;
6. The cumulative volume of wastewater generated during the year to date;
7. The total pounds of total dissolved solids and fixed dissolved solids (year to date) that have been applied to the land application areas, as calculated from the sum of monthly loadings; and
8. The total pounds of nitrogen (year to date, from all sources including fertilizer) applied to the land application area as calculated from the sum of monthly loadings.
9. A summary of the quantity of tomato and vegetable solid waste generated and disposed of off-site.
10. A summary of the quantity of liquid waste (spent ion exchange flush water, etc.) generated and disposed of off-site. Include a description of the disposal location for the material. If such waste is not generated, a statement needs to be included stating so.
11. During the period that process wastewater land application ceases and prior to allowing stormwater to flow offsite, the corresponding report(s) shall state whether the land application area was stabilized by waiting three weeks or the land application was flushed. If the land application area was flushed, the report shall state how much

rainwater was collected and list the fields where collected water was reapplied.

B. Quarterly Report

The Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Regional Board by the **1st day of the second month after the quarter** (i.e. the January-March quarter is due by May 1st) each year. The fourth Quarterly Report may be submitted as part of the Annual report. The Quarterly Report shall include the following:

1. Results of the quarterly monitoring of processing wastewater and tailwater ponds (standard minerals analysis).
2. Results of groundwater monitoring;
3. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;
4. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;
5. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal tends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
6. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
7. Summary data tables of historical and current water table elevations and analytical results;
8. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and
9. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Report

The December Monthly Report and the fourth Quarterly Report may be included as part of Annual Report. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. The contents of a regular December monthly monitoring report.
2. The contents of the regular quarterly monitoring report for the last quarter of the year.

3. Tabular and graphical summaries of all data collected during the year.
4. Tabular and graphical summaries of historical monthly total loading rates for wastewater generation, process water used for irrigation (hydraulic loading in gallons/acre and inches), total nitrogen, total dissolved solids, and fixed dissolved solids.
5. An annual nitrogen loading balance that accounts for all nitrogen sources and losses. The objective of the nitrogen balance is to make a determination of:
    a. The annual mass load of nitrogen percolating from the ground surface to the underlying groundwater, and
    b. Whether that mass of percolating nitrogen will cause significant and/or unacceptable degradation of the groundwater.
6. A comprehensive evaluation of the effectiveness of the past year's wastewater application operation in terms of odor control and groundwater protection, including consideration of application management practices (e.g. waste constituent and hydraulic loadings, application cycles, drying times, and cropping practices), and groundwater monitoring data.
7. A summary of the vegetative material (crops) removed from the LAAs. The summary shall include harvest dates, crop type, disposal area, and estimated ash content of the harvest.
8. A summary of the quantity of solid waste generated, how it was dried, and disposed of off-site.
9. An evaluation of the groundwater quality beneath the land application area.
10. Updated ambient groundwater values using data from site wells, and detail the data analysis methods utilized. A comparison of the ambient groundwater concentration and annual average effluent FDS concentrations as described in the Monthly Monitoring Reports Item A.2.i.
11. A description of source control methods that have been implemented in the calendar year.
12. Estimated flows for the next calendar year.
13. 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 waste discharge requirements.
14. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.

A letter transmitting the self-monitoring reports shall accompany each report. Such a 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 facility 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

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(Date)