CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION
REVISED MONITORING AND REPORTING PROGRAM NO. 93-047

FOR
CLARK'S SEPTIC SERVICE, LLC
RESTAURANT, GREASE TRAP, AND POULTRY WASTE REUSE AREA
STANISLAUS COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring commercial and industrial waste, land application areas, stormwater, and land application soil quality. This MRP is issued pursuant to California 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. Specific sample station locations shall be approved by Regional Water Board staff prior to implementation of sampling activities. All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. If methods other than U.S. EPA-approved methods or *Standard Methods for the Examination of Water and Wastewater*, latest edition, are used, the exact methodology shall be submitted for review and approval.

WASTE MONITORING

Waste monitoring shall include monitoring of waste quality, as well as waste documentation. Samples shall be collected from the septage and grease hauling trucks, prior to landspreading. Waste quality monitoring of each septage and grease hauling truck shall include at least the following:

Constituent	Units	Sample Type	Sampling Frequency	Reporting Frequency
License Plate Number	--	--	2x/month	Monthly
Type of Waste Sampled	--	--	2x/month	Monthly
Source of Waste Sampled	--	--	2x/month	Monthly
BOD_5	mg/l	Grab	2x/month	Monthly
Total Organic Carbon	mg/l	Grab	2x/month	Monthly
Nitrate (as N)	mg/l	Grab	2x/month	Monthly
Total Kjeldahl Nitrogen	mg/l	Grab	2x/month	Monthly
Total Phosphorus	mg/l	Grab	2x/month	Monthly
Total Dissolved Solids	mg/l	Grab	2x/month	Monthly
Fixed Dissolved Solids	mg/l	Grab	2x/month	Monthly
Bicarbonate	mg/l	Grab	2x/month	Monthly
Fat, Oil, and Grease	mg/l	Grab	2x/month	Monthly
Fecal Coliform Organisms	MPN/100 ml	Grab	2x/month	Monthly
Escherichia Coli	MPN/100 ml	Grab	2x/month	Monthly
Fecal streptococci	MPN/100 ml	Grab	2x/month	Monthly
Enterococcus	MPN/100 ml	Grab	2x/month	Monthly
Methylene Blue Active Substances	mg/l	Grab	2x/month	Monthly
Total Metals[1]	μg/l	Grab	Quarterly	Quarterly

[1] Metals shall include cadmium, chromium, copper, lead, nickel, and zinc.

Constituent	Units	Sample Type	Sampling Frequency	Reporting Frequency
Documentation				
Truck Log	--	--	Daily	Monthly
Septage Disposal Receipts	--	--	Daily	Monthly
Monthly Pumper Reports	--	--	Monthly	Monthly

LAND APPLICATION AREA MONITORING

Application of waste to the land application areas shall be monitored to prevent overloading the area with waste constituents, which can cause objectionable odors and/or groundwater degradation. The following parameters shall be calculated and reported in the monthly monitoring reports.

Constituents	Units	Sample Type	Sampling Frequency	Reporting Frequency
Flow to Application Area	gpd	Metered	Daily	Monthly
Precipitation	inches	Measured	Daily	Monthly
Application Area (Name)	acres	Measured[1]	Daily	Monthly
Crop Planted (Name and Date Planted/Harvested)	acres	Measured[1]	Daily	Monthly
Tailwater Generation	inspection	Observation	Daily[2]	Monthly
BOD_5 Loading Rate	lbs/acre/day	Calculated[3]	Daily	Monthly
Total Dissolved Solids Loading Rate	lbs/acre/day	Calculated[4]	Daily	Monthly
Fixed Dissolved Solids Loading Rate	lbs/acre/day	Calculated[5]	Daily	Monthly
Hydraulic Loading Rate	inches/acre/month	Calculated	Monthly	Monthly
Total Nitrogen Loading Rate	lbs/acre/month	Calculated[6]	Monthly	Monthly
Anticipated Vegetative Nitrogen Uptake for Crops Planted	lbs/acre/year	Calculated	Annually	Annually

[1] Provide a map identifying field names and acreages.
[2] Runoff monitoring of the application areas shall be performed daily. Frequency of monitoring during the day shall be sufficient to determine if runoff is occurring.
[3] BOD_5 loading shall be calculated for each field using the daily applied volume of waster, estimated daily application area, and the most recent results of waste BOD_5.
[4] Total dissolved solids (TDS) loading shall be calculated for each field using the daily applied volume of waste, estimated daily application area, and the most recent results of waste total dissolved solids.
[5] Fixed dissolved solids (FDS) loading shall be calculated for each field using the daily applied volume of waste, estimated daily application area, and the most recent results of waste fixed dissolved solids.
[6] Total nitrogen loading rates shall be calculated for each field using the daily applied volume of waste, estimated daily application area, and the most recent results of waste total nitrogen (total Kjeldahl nitrogen plus nitrate).

In addition, the Discharger shall maintain a daily log of discharges to the land application area. Notations shall record which area is receiving waste, observations of ponding water, saturated soil, odors, insects, or other potential nuisance conditions. The notations shall also document any corrective actions taken. A copy of the entries made in the log during each month shall be submitted along with monthly monitoring reports.

STORMWATER AND IRRIGATION TAILWATER MONITORING

By **1 October 2007**, the Discharger shall submit proposed stormwater and irrigation tailwater monitoring stations for the disposal areas located at 9585 Crows Landing Road and 695 Albers Road. Monitoring stations shall include at least one location upgradient of the disposal area and at least one location downgradient of the disposal area for each disposal site. Effective **1 November 2007**, stormwater and irrigation tailwater samples shall be collected from the approved stormwater and irrigation tailwater monitoring stations when stormwater and/or tailwater flows off the disposal areas, and monitored for at least the following:

Constituent	Units	Sample Type	Sampling Frequency	Reporting Frequency
pH	s.u.	Grab	Monthly	Monthly
BOD_5	mg/l	Grab	Monthly	Monthly
Ammonia, Total (as N)[1]	mg/l	Grab	Monthly	Monthly
Nitrate (as N)	mg/l	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/l	Grab	Monthly	Monthly
Total Dissolved Solids	mg/l	Grab	Monthly	Monthly
Total Suspended Solids	mg/l	Grab	Monthly	Monthly
Fecal Coliform Organisms	mg/l	Grab	Monthly	Monthly
Fecal streptococci	MPN/100 ml	Grab	Weekly	Monthly
Methylene Blue Active Substances	mg/l	Grab	Weekly	Monthly
Oil and Grease	mg/l	Grab	Weekly	Monthly

[1] pH shall be recorded at the time of ammonia sample collection.

If no stormwater runoff or irrigation tailwater was generated during the month, the monitoring report shall so state.

Each **September**, the Discharger shall inspect the land disposal areas and make any necessary improvements to stormwater runoff control measures.

By **1 October** of each year, the Discharger shall commence implementation of the wet season inspection schedule included in its most recent *Wet Season Preparation Report*.

By **30 May** each year, the Discharger shall submit a *Wet Season Inspection Report of Results* describing the results of all wet season inspections and containing all photographs taken during the inspections.

GROUNDWATER MONITORING

Prior to completion and/or initial sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Regional Water Board for review and approval. Once installed, all new wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below.

In addition to any wells located on the 9585 Crows Landing Road and 695 Albers Road properties, as long as the respective property owners grant access, samples shall be collected from all domestic and agricultural wells within 50 feet of the disposal area property lines. Samples from these wells shall be collected upstream of any water treatment equipment. If access is refused, the Discharger shall document the efforts made and the response of the well owner.

Prior to sampling or purging, equilibrated groundwater elevations shall be measured to the nearest 0.01 foot. Depth to groundwater measurements shall be collected from all wells on the same day. The wells shall be purged at least three well volumes until pH and electrical conductivity have stabilized. Sample collection shall follow standard U.S. EPA analytical method protocols. Groundwater monitoring shall include, at a minimum, the following:

Constituent	Units	Sample Type	Sampling Frequency[1]	Reporting Frequency
Depth to Groundwater[2]	0.01 ft	Measurement	Quarterly	Quarterly
Groundwater Elevation	0.01 ft	Calculated	Quarterly	Quarterly
Gradient	ft/ft	Calculated	Quarterly	Quarterly
Gradient Direction	degrees	Calculated	Quarterly	Quarterly
pH[3]	s.u.	Grab	Quarterly	Quarterly
BOD_5	mg/l	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/l	Grab	Quarterly	Quarterly
Ammonia, Total (as N)	mg/l	Grab	Quarterly	Quarterly
Total Coliform Organisms	MPN/100 ml	Grab	Quarterly	Quarterly
Fecal Coliform Organisms	MPN/100 ml	Grab	Quarterly	Quarterly
Methylene Blue Active Substances	mg/l	Grab	Quarterly	Quarterly
General Minerals[4]	mg/l	Grab	Quarterly	Quarterly

[1] Beginning with the fourth quarter of 2007.
[2] For wells with adequate well installation information to determine.
[3] A hand-held field meter may be used, provided the meter uses a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained on-site.
[4] Including chloride, sulfate, bicarbonate, carbonate, calcium, iron, manganese, magnesium, potassium, sodium, boron, nitrate (as N), and cation/anion balance.

LAND APPLICATION AREA SOILS MONITORING

The Discharger shall establish, with concurrence of Regional Water Board staff, three soil profile monitoring locations and one representative background location (*i.e*., in an area that historically received neither industrial and commercial waste nor septage, preferably off of the Discharger's property) for each of the two disposal areas. Soil sample analyses shall be conducted using deionized water and the Waste Extraction Test method, as defined in Title 22 of the California Code of Regulations. The samples shall be collected and analyzed for at least the following constituents annually, each September:

Constituents	Units	Soil Profile	Sampling Frequency	Reporting Frequency
Soil pH	pH	Standard[1]	Annually	Annually
Nitrate (as N)	mg/kg	Standard	Annually	Annually
Total Kjeldahl Nitrogen (as N)	mg/kg	Standard	Annually	Annually
Phosphorus	mg/kg	Standard	Annually	Annually
Total Dissolved Solids	mg/kg	Standard	Annually	Annually
Fixed Dissolved Solids	mg/kg	Standard	Annually	Annually
Sodium	mg/kg	Standard	Annually	Annually
Chloride	mg/kg	Standard	Annually	Annually
Sodium Adsorption Ratio	unitless	Standard	Annually	Annually
Cation Exchange Capacity	meq/100 g	Standard	Annually	Annually
Exchangeable Sodium	% of CEC	Standard	Annually	Annually
Electrical Conductivity	µmhos/cm	Standard	Annually	Annually
Total Metals[2]	mg/kg	Standard	Annually	Annually
Fat, Oil, and Grease	mg/kg	Standard	Annually	Annually

[1] Samples shall be collected at 0.5 feet, 3 feet, and 6 feet.
[2] Metals shall include cadmium, chromium, copper, lead, nickel, and zinc.

By **1 October** of each year, the Discharger shall have each of the land application areas inspected by a Certified Crop Advisor or Certified Agronomist. The Certified Crop Advisor or Certified Agronomist shall inspect the land application areas and be provided data necessary to prepare the report required by E.6 of this MRP.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (*e.g*., effluent, soil, *etc*.), and reported analytical result for each sample are readily discernible. Monthly maximums, minimums, and averages shall be reported for each monitored constituent and parameter. 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 by 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 Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Water Board on the **1st day of the second month following sampling** (*i.e*. the January Report is due by 1 March). At a minimum, the reports shall include:

1. Results of waste, stormwater, land application areas, groundwater, soils, and surface water monitoring.
2. Land application log book entries and calculations.
3. A map of all stormwater sample locations and fields showing field names, acreages planted with a crop, and type of crop. An evaluation of crop health.
4. Calibration records for all pH meters.
5. Copies of receipts for discharge of septage at the City of Modesto's and the City of Tracy's wastewater treatment plants; copies of monthly pumper reports submitted to the Counties of San Joaquin and Stanislaus; and copies of the daily logs for each of the septage and/or grease trucks owned by the Discharger.
6. A comparison of monitoring data to the Discharge Prohibitions, Discharge Specifications, and Ground Water Limitations and an explanation of any violation of those requirements. Data shall be presented in tabular format.
7. Copies of laboratory analytical report(s).

B. Quarterly Monitoring Reports

Beginning with the fourth quarter of 2007, 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 Water Board by the **1st day of the second month after the quarter** (*i.e*. the January-March quarterly report is due by May 1st) and may be combined with the monthly report. The Quarterly Report shall include the following:

1. Results of the groundwater monitoring;
2. 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;

3. 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;
4. 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);
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
6. Summary data tables of historical and current water table elevations and analytical results;
7. A scaled map showing relevant structures and features of the facility, the portions of the land application areas used for spreading wastes during the calendar year, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum;
8. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Wet Season Preparation Report

By **15 October** of each year, the Discharger shall submit a *Wet Season Preparation Report* describing control measures implemented at each disposal site to prevent the discharge of stormwater and/or irrigation tailwater to surface water drainage courses and to any off-site location. The Report shall include a wet season inspection schedule for the Discharger's staff to identify locations of off-site and surface water drainage course discharges. The inspection schedule shall include daily inspections and photographs of stormwater monitoring stations during periods of precipitation. The Discharger shall make any improvements needed, based on wet weather inspection observations. The Report shall discuss any changes from control measures implemented the previous year.

D. Wet Season Inspection Report

By **30 May** of each year, the Discharger shall submit a Wet Season Inspection Report of Results describing the results of all wet season inspections and containing all photographs taken during the inspections.

E. Annual Report

An Annual Report shall be prepared as the December monitoring report. The Annual Report will include all monitoring data required in the monthly and quarterly schedules. The Annual Report shall be submitted to the Regional Water Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. The contents of the regular quarterly and monthly reports for the last sampling periods of the year;
2. If requested by staff, tabular summaries of all data collected during the year.
3. The results of land application soils monitoring, including a map depicting sample locations.
4. An evaluation of the groundwater quality beneath the disposal sites.
5. 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.
6. An annual report, prepared by a Certified Crop Advisor or Certified Agronomist, detailing the effect of the application of the waste on crops, the health of the crops grown in the application areas, the effect of continued application of waste, and the potential for increased soil salinity and the resulting impacts to future agricultural use. The report shall describe the crop conditions throughout the year, not just at the time of Annual Report preparation, and shall contain recommendations regarding crops to be planted, and actions necessary to improve the crop health for the following year.
7. 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 requirements violation 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 action, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program as of **1 October 2007**.

original signed by
PAMELA C. CREEDON, Executive Officer

21 August 2007
(date)

AMENDED
MRH: 10-Aug-2007