

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2010-XXXX
FOR
COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
FOR
OPERATION AND CONSTRUCTION
WESTLAKE FARMS COMPOSTING FACILITY
KINGS COUNTY

Compliance with this Monitoring and Reporting Program (MRP) is ordered by Waste Discharge Requirements Order _____.

A. REQUIRED MONITORING REPORTS

1. Groundwater Monitoring (Section D.1)
2. Annual Monitoring Summary Report
3. Surface Impoundment Monitoring (Section D.2)
4. Compost Temperature Monitoring (Section D.3)
5. Quantities (Section D.4)
6. Biosolids Monitoring (Section D.5)
7. Facility Monitoring (Section D.6)

B. REPORTING

The County Sanitation Districts of Los Angeles County (hereafter Discharger) shall report monitoring data and information as required in this MRP and as required in Order _____. Reports which do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, constituents, concentrations, and units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly compliance with waste discharge requirements or the lack thereof. Data shall also be submitted in a digital format acceptable to the Executive Officer. Each monitoring report shall include a compliance evaluation summary as specified in "E. Reporting Requirements", in this MRP.

Report Due Dates

Field and laboratory tests shall be reported in each monitoring report. Monitoring reports shall be submitted to the Central Valley Water Board in accordance with the following schedule for the calendar period in which samples were taken or observations made.

Sampling Frequency	Reporting Frequency	Reporting Period Ends	Report Date Due
Semiannually	Semiannually	June 30 December 31	July 31 January 31
Annually	Annually	December 31	January 31

The Discharger shall submit an **Annual Monitoring Summary** with the semiannual report due on 31 January to the Central Valley Water Board. The Annual Monitoring Summary shall contain the information specified in "E. Reporting Requirements", in this MRP, and a discussion of compliance with the waste discharge requirements and the Water Quality Protection Standard.

The results of all monitoring conducted at the site shall be reported to the Central Valley Water Board in accordance with the reporting schedule above for the calendar period in which samples were taken.

C. WATER QUALITY PROTECTION STANDARD

The Discharger submitted a report titled *Proposed Water Quality Protection Standard, Westlake Farms Composting Facility, Kings County, California*, dated 2 April 2010 (Water Quality Protection Standard Report), that provides the basis for the following monitoring system that will be used to detect a release from the facility.

1. Point of Compliance

The point of compliance for the water quality protection standard is a vertical surface located at the hydraulically downgradient limit of the waste management unit (Unit) that extends through the uppermost aquifer underlying the Unit. The uppermost aquifer of the Unit is the water table, which is monitored by a number of shallow wells. The general gradient across the site is to the north, which places the downgradient edge of the Unit along the northern boundary of Section 35 as shown in Attachment C of Order_____.

2. Monitoring Parameters

Monitoring parameters are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from the Unit. The monitoring parameters are those listed in Table I. The Discharger shall monitor all monitoring parameters semiannually.

3. Constituents of Concern

The constituents of concern (COC) include all the waste constituents, the reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit. The COC for the Unit are those listed in Table II. Because these constituents will not provide a reliable indication of a release from the Unit, the Discharger shall monitor all COC every five years.

4. Concentration Limits

With the exception of field parameters, a concentration limit shall be calculated for each monitoring parameter at each point of compliance well utilizing a groundwater statistical analysis computer program (such as Sanitas™). The concentration limit for each monitoring parameter shall be the intra-well prediction limit determined from all data collected prior to the commencement of composting operations at the facility.

The concentration limits for naturally occurring monitoring parameters shall be reassessed annually and shall be listed in the Annual Monitoring Summary Report.

The Discharger has proposed to collect and analyze additional samples from each point of compliance well prior to the operation of the facility for each monitoring parameter to improve the statistical reliability of the concentration limits. The Discharger shall submit a report that is acceptable to the Executive Officer that documents the background data collected for each monitoring parameter and proposes concentration limits based on the data. This report shall be submitted prior to commencement of facility operations.

D. MONITORING

The Discharger shall monitor groundwater, compost temperature, the quantity of finished compost and raw materials shipped and received, and the quality of incoming biosolids as described in the following sections.

1. Groundwater

Groundwater samples shall be collected from the point of compliance wells and upgradient wells. Samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequencies specified in Tables I and II. The first Five-Year COC event shall be conducted during the first monitoring period after the facility begins operation. Subsequent Five-Year COC scanning events shall be conducted concurrently with first semiannual sampling event of the appropriate year.

All monitoring shall be conducted in accordance with a sample collection and analysis plan in accordance with Monitoring Specification E.8 of the WDRs.

Groundwater sampling shall also include an accurate determination of the groundwater surface elevation and field parameters (temperature, electrical conductivity, pH, and turbidity) for that monitoring point.

Water elevations shall be collected from all point of compliance and upgradient wells and all piezometers quarterly and shall be used for determining the groundwater gradient, elevation, and direction as required in Sections E.5.b and c of this MRP. Groundwater elevations shall be collected prior to any sampling activities (i.e. purging the well).

2. Surface Impoundment Monitoring

At any time during a semiannual monitoring period, if water is present in a storm water surface impoundment for longer than 14 days, the water shall be sampled and analyzed for total concentrations of metals listed in Title 22 CCR §66261.24(a)(2)(A). Samples do not need to be obtained more often than once during any semiannual monitoring period.

The freeboard on the storm water surface impoundments shall not be less than two feet measured vertically from the water surface to the point on the surrounding lined berm having the lowest elevation. Permanent markers shall be placed in each storm water surface impoundment with calibrations indicating the water level at design capacity and that the available operational freeboard is at least two feet. The freeboard on the surface impoundments shall be observed **monthly** from April through September and **weekly** from November through April. This information shall be **reported annually**.

3. Compost Temperature Monitoring

Compost temperatures from active and intermediate Aerated Static Piles shall be measured and recorded on a daily basis. Temperature monitoring shall be conducted in accordance with United States Environmental Protection Agency (USEPA) and Department of Resources Recycling and Recovery (CalRecycle) composting guidelines and requirements.

The following information shall be reported **Semiannually**:

Constituent	Units	Monitoring Frequency
Aerated Static Pile Temperatures	°C	Daily ¹
Length of Aerated Static Pile	Feet	Daily ¹

¹Each operating day, but not less than 5 days per calendar week.

4. Quantities

Quantities of the following shall be reported **semiannually**:

Constituent	Units	Monitoring Frequency
Biosolids Received	Tons (wet)	Monthly
Bulking Agents Received	Tons (wet)	Monthly
Exceptional Quality Compost Shipped Offsite ¹	Tons (wet)	Monthly
Precipitation	Inches ²	Monthly

¹Information including the name of the generator, and amount (tons) shipped. These records are to be maintained by the Discharger and made available for inspection by staff at the site offices.

²Based on measurements recorded at the nearest rain gauging station operated by a governmental entity.

5. Biosolids Monitoring

For each source of municipal biosolids received the Discharger shall provide analytical results for the following constituents:

- Total Kjeldahl Nitrogen
- Nitrogen
- Nitrates
- Title 22, CCR, Priority Pollutant Metals¹
- Percent Solids
- pH
- Fecal Coliforms

¹Soluble concentrations using the Waste Extraction Test (WET).

For each source of municipal biosolids, the above analyses shall be performed at least on a semi-annual basis, and **reported semiannually**. Accompanying the analytical results shall be verification of biosolids as nonhazardous in accordance with Title 22, California Code of Regulations (CCR), Division 4.5, Chapter 11, Article 3, §66261.24(a)(2)(A) Table II (Priority Pollutant Metals), or by other tests approved by Central Valley Water Board staff. This verification shall include a statement from the generator stating that sludge has been tested and meets criteria for nonhazardous sludge specified in Title 22, CCR, Division 4.5, Chapter 11, Article 3, §66261.24(a)(2)(A) Table II (Priority Pollutant Metals).

6. Facility Monitoring

a. Facility Inspection

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall assess damage to the drainage control system, groundwater monitoring equipment (including wells, etc.), and shall include the Standard Observations contained in Section E.4.f., of this MRP. Any necessary construction, maintenance, or repairs shall be completed by **31 October**. By **15 November** of each year, the Discharger shall submit an Annual Report describing the results of the inspection and any repair measures implemented, including photographs of the problem and the repairs.

b. Storm Events

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage **within 7 days** following *major storm events* (i.e., a storm that causes continuous runoff for at least one hour). Necessary repairs shall be completed **within 30 days** of the inspection. The Discharger shall report any damage and subsequent repairs **within 45 days** of completion of the repairs, including photographs of the problem and the repairs.

E. REPORTING REQUIREMENTS

1. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this MRP, and records of all data used to complete the application for this MRP. Records shall be maintained throughout the life of the facility.

Such legible records shall show the following for each sample:

- a. Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;
 - b. Date, time, and method of sampling;
 - c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;
 - d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
 - e. Calculation of results; and
 - f. Results of analyses, and the MDL and PQL for each analysis.
2. A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules contained in the accompanying report.
 3. The following information shall be included on all monitoring and annual reports, as well as report transmittal letters, submitted to the Central Valley Water Board:
 - a. Discharger name,
 - b. Facility name,
 - c. MRP number, and
 - d. Contact information (telephone number and e-mail).
 4. The Discharger shall establish and maintain an approved Sample Collection and Analysis Plan. The Sample Collection and Analysis Plan shall at a minimum include:
 - a. Sample collection procedures describing purging techniques, sampling equipment, and decontamination of sampling equipment;

- b. Sample preservation information and shipment procedures;
 - c. Sample analytical methods and procedures;
 - d. Sample quality assurance/quality control (QA/QC) procedures; and
 - e. Chain of Custody control.
5. Each monitoring report shall include a compliance evaluation summary. The summary shall at a minimum include:
- a. For each monitoring point and background monitoring point addressed by the report, a description of:
 - 1) The time of water level measurement;
 - 2) The type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;
 - 3) The method of purging (the pumping rate; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; the calibration of the field equipment; results of the pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water) to remove all portions of the water that was in the well bore before the sample was taken;
 - 4) The type of pump - or other device - used for sampling, if different than the pump or device used for purging; and
 - 5) A statement that the sampling procedure was conducted in accordance with the approved Sample Collection and Analysis Plan.
 - b. A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.
 - c. For each groundwater body, a description and graphical presentation of the gradient and direction of groundwater flow under/around the Unit(s), and the groundwater flow rate, based upon water level elevations taken prior to the collection of the water quality data submitted in the report.
 - d. Laboratory statements of results of all analyses evaluating compliance with requirements.
 - e. An evaluation of the effectiveness of runoff/runon control facilities.

- f. A summary and certification of completion of all **Standard Observations** for the Unit and for the perimeter of the Unit. Standard observations for the Unit shall be conducted **monthly** during the wet season (1 October to 30 April) and **quarterly** during the dry season (1 May to 30 September). The Standard Observations shall include:
 - 1) For the Unit(s):
 - a) Evidence of ponded water at any point on the facility (show affected area on map); and
 - b) Evidence of erosion.
 - 2) Along the perimeter of the Unit(s):
 - a) Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate (show affected area on map); and
 - b) Evidence of erosion.
6. The Discharger shall report by telephone any seepage from the Unit(s) **immediately** after it is discovered. A written report shall be filed with the Central Valley Water Board **within seven days**, containing at least the following information:
 - a. A map showing the location(s) of seepage;
 - b. An estimate of the flow rate;
 - c. A description of the nature of the discharge (e.g., all pertinent observations and analyses);
 - d. Verification that samples have been submitted for analyses of the monitoring parameters and constituents of concern listed in Table I of this MRP, and an estimated date that the results will be submitted to the Central Valley Water Board; and
 - e. Corrective measures underway or proposed, and corresponding time schedule.
7. The Discharger shall submit an **Annual Monitoring Summary Report** to the Central Valley Water Board covering the reporting period of the previous monitoring year. This report shall contain:

- a. All monitoring parameters and constituents of concern shall be graphed so as to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point or background monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.
- b. Data for the previous year shall be submitted in tabular form as well as in a digital file format. The Central Valley Water Board regards the submittal of data in hard copy and in digital format as "...the form necessary for..." statistical analysis in that this facilitates periodic review by the Central Valley Water Board.
- c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.
- d. A written summary of the monitoring results, indicating any changes made or observed since the previous annual report.

The Discharger shall implement the above monitoring program effective on the date below.

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

(Date)

REH: 9/22/10

TABLE I
GROUNDWATER DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Groundwater Elevation	Ft. & hundredths, M.S.L. ¹	Quarterly
Temperature	°C ²	Semiannually
Electrical Conductivity	µmhos/cm ³	Semiannually
pH	pH units	Semiannually
Turbidity	NTU ⁴	Semiannually
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L ⁵	Semiannually
Nitrate (NO ₃)	mg/L	Semiannually
Nitrate as Nitrogen (NO ₃ -N)	mg/L	Semiannually
Nitrite (NO ₂ -N)	mg/L	Semiannually
Total Kjeldahl Nitrogen	mg/L	Semiannually
Total Nitrogen	mg/L	Semiannually
Ammonia (NH ₃ -N)	mg/L	Semiannually
Chloride	mg/L	Semiannually
Carbonate	mg/L	Semiannually
Bicarbonate	mg/L	Semiannually
Phosphorous	mg/L	Semiannually
Sulfate	mg/L	Semiannually
Calcium	mg/L	Semiannually
Magnesium	mg/L	Semiannually
Potassium	mg/L	Semiannually
Sodium	mg/L	Semiannually

TABLE II

GROUNDWATER DETECTION MONITORING PROGRAM

Constituents of Concern

<u>Parameter</u>	<u>USEPA Method</u>	<u>Units</u>	<u>Frequency</u>
Total Organic Carbon		mg/L	Every 5 Years
<u>Inorganics (dissolved)</u>			
Aluminum	6010	mg/L	Every 5 Years
Antimony	6010	mg/L	Every 5 Years
Barium	6010	mg/L	Every 5 Years
Beryllium	6010	mg/l	Every 5 Years
Boron	6010	mg/L	Every 5 Years
Chromium	6010	mg/L	Every 5 Years
Cobalt	6010	mg/L	Every 5 Years
Copper	6010	mg/L	Every 5 Years
Manganese	6010	mg/L	Every 5 Years
Silver	6010	mg/L	Every 5 Years
Vanadium	6010	mg/L	Every 5 Years
Zinc	6010	mg/L	Every 5 Years
Arsenic	7062	mg/L	Every 5 Years
Cadmium	7131A	mg/L	Every 5 Years
Lead	7421	mg/L	Every 5 Years
Mercury	7470A	mg/L	Every 5 Years
Nickel	7521	mg/L	Every 5 Years
Selenium	7742	mg/L	Every 5 Years
Thallium	7841	mg/L	Every 5 Years
Cyanide	9010	mg/L	Every 5 Years
Sulfide	9030	mg/L	Every 5 Years

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1. Feet and hundredths of a foot above mean sea level.
 2. Degrees Celsius.
 3. Micromhos per centimeter.
 4. Nephelometric turbidity units.
 5. Milligrams per liter.