INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER _____
FOR COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
FOR OPERATION AND CONSTRUCTION
WESTLAKE FARMS COMPOSTING FACILITY
KINGS COUNTY

The County Sanitation Districts of Los Angeles County (Discharger), plans to construct and operate a 177.5-acre composting facility (facility) that will use, as a feedstock, treated municipal sewage sludge meeting the requirements specified in Part 503 in Title 40 of the United States Code of Federal Regulations (biosolids). The proposed facility will be located in southern Kings County approximately 2.5 miles east of Interstate Highway 5 and five miles southeast of Kettleman City. The finished product will qualify as Exceptional Quality Biosolids. The Discharger's intent is to use the composted biosolids as a soil amendment on 14,562 acres of farmland in Kings County owned by the Discharger. However, the composted biosolids could be sold to others.

The Discharger will compost municipal biosolids with bulking agents using the aerated static pile method. The biosolids originate from wastewater treatment plants regulated by orders adopted by various regional water boards and transported to the facility by truck. Typically, biosolids that will be processed are generated by facilities owned by the Discharger. Biosolids from other wastewater treatment plants may be composted if the biosolids are compatible with the composting process and facility permits. Only biosolids that meet the requirements for nonhazardous biosolids specified in Title 22, California Code of Regulations, Division 4.5, Chapter 11, Article 3 (Class B biosolids), will be accepted.

The bulking agents will consist of agricultural feedstock (field crop residues left over from harvest, orchard removals, and prunings) and green waste feedstock from recycling programs. The bulking agents will likely come from Los Angeles County and the San Joaquin Valley. Other bulking agents such as wood chips and shredded tires may also be used. These materials will be screened from the finished compost and reused. The permitted maximum annual receipt of all combined composting feedstocks is 900,000 tons. The wastes that will be treated at the facility are classified as non-hazardous solid waste. Liquid residual wastes (such as leachate and precipitation that comes into contact with composting material) will be collected in composite-lined impoundments and used in the composting process.

The following table presents chemical and physical characteristics of the biosolids and greenwaste that will be composted at the facility.

Characteristics of Biosolids and Greenwaste Materials

Parameter	Units[1]	Value	
		Biosolids	Greenwaste
Nitrogen	mg/kg	43,833 Org N[2]	1.13%
Sulfur	mg/kg	43,400	NA[3]
Phosphorus	mg/kg	87,930	0.20%
Potassium	mg/kg	1,021	1.04%
Nitrate-Nitrogen	mg/kg	ND (74)[4]	83.8
Ammonia Nitrogen	mg/kg	9,300	425
Bulk Density	lb/yd	1,685	470
Moisture Content	%	74	46
pH	s.u.	8.0	NA
Electrical Conductivity	umhos/cm	11.7	15.4
Arsenic	mg/kg	7.3	0.34
Cadmium	mg/kg	7.2	1.2
Total Chromium	mg/kg	116.8	5.2
Copper	mg/kg	382.6	92
Lead	mg/kg	25.3	19
Mercury	mg/kg	1.4	1
Molybdenum	mg/kg	18.6	2.2
Nickel	mg/kg	42.6	7
Selenium	mg/kg	18.3	ND (0.1)
Zinc	mg/kg	826.0	177

Notes:
1. mg/kg = milligrams per kilogram; lb/yd = pounds per cubic yard; % = percent; s.u. = standard pH units; umhos/cm = micromohs per centimeter.
2. Org N = organic nitrogen.
3. NA = not analyzed.
4. ND = not detected above the detection limit shown in parentheses.

The biosolids used as feedstock will meet or exceed the federal requirements for Class B biosolids. The proposed Waste Discharge Requirements (WDRs) prohibit selling or providing a finished product that does not meet the definition of “exceptional quality” in the Federal Regulations. Processed compost that does not meet the

exceptional quality compost specifications will be reprocessed. Exceptional quality biosolids do not exceed the pollutant limits identified in 40 CFR Part 503.13(a)(3), meet Class A pathogen requirements as required in 40 CFR Part 503.32(a), and meet vector attraction reduction requirements, as defined in 40 CFR Part 503.33(a).

The facility is on the floor of the southern San Joaquin Valley. The designated beneficial uses of Valley Floor Waters, as specified in the *Water Quality Control Plan for the Tulare Lake Basin,* Second Edition, revised January 2004, are agricultural supply, industrial service and process supply, water contact and non-contact water recreation, warm fresh water habitat, preservation of rare, threatened and endangered species, and groundwater recharge.

The first encountered groundwater beneath the facility or the uppermost aquifer occurs in sediments under confined to semi-confined conditions at about 3.5 feet below the native ground surface or at elevation of 183.2 feet mean sea level. Groundwater from the monitoring wells at the facility has total dissolved solids (TDS) concentrations ranging from about 3,400 to 27,000 milligrams per liter (mg/l) and an electrical conductivity of 8,000 to 26,000 micromohs per centimeter. The facility is in the Tulare Lake Basin Hydrologic Unit, Detailed Analysis Unit (DAU) 241. The designated beneficial uses of the groundwater, as specified in the Basin Plan for DAU 241, are municipal and domestic water supply, agricultural supply, and industrial service supply.

The existing detection monitoring system consists of four groundwater monitoring wells: MW-11, MW-12, and MW-13 are used to monitor the point of compliance and well MW-9 is used to establish background groundwater quality. Monitoring wells MW-4 through MW-7 are utilized as piezometers and, in conjunction with the groundwater monitoring wells, are used to define the potentiometric surface in the vicinity of the facility.

A liner consisting of a minimum of one foot of compacted clay with a maximum hydraulic conductivity of 1×10^{-6} centimeters per second (cm/sec) will be placed beneath all areas of the facility on which waste materials will be placed. The aerated static pile composting areas will have a liner system consisting of the following in ascending order:

- A layer of compacted clay;
- A layer of lime-stabilized soil; and
- A layer of soil cement.

The composting facility will be located in the rain shadow of the Coast Ranges. Average annual precipitation is about seven inches and the annual pan evaporation rate is about 56 inches. Evaporation normally exceeds precipitation about 10 months out of each year. Because of the low precipitation and high evaporation, and by covering the compost piles, a low volume of leachate is expected to be generated. Storms are infrequent, but can occasionally be intense and create storm water runoff. The Discharger has incorporated plans to collect the storm water in retention basins.

Retention basins for storm water that has the potential to come into contact with wastes will have a liner system consisting, at a minimum, of the following, in ascending order:

- A 12-inch thick compacted clay layer exhibiting a maximum hydraulic conductivity of 1×10^{-6} cm/sec, compacted to 90 percent dry density;
- A 12-inch thick lime treated soil layer, compacted to 90 percent dry density; and
- A 12-inch thick soil cement layer, compacted to 90 percent dry density.

The composting area and storm water retention basin liner designs would qualify as engineered alternative liners in accordance with Title 27, California Code of Regulations, §20005, et seq. (Title 27) for these wastes at this facility.

In the original design of the project, the storm water basins were elevated to maintain a five-foot separation between the bottom of the basin liners and the highest elevation of groundwater. However, when the Discharger attempted to develop a water supply on the facility to provide water for the composting process, it found that groundwater beneath the facility occurs in very fine-grained lacustrine (lake) sediments that have a high clay content and cannot be produced in sufficient quantity to be used for this purpose. The Discharger now will use water from the Blakely Canal located adjacent to the facility and reuse storm water from the retention basins to supplement the water from the canal. The original storm water basin design was too shallow to allow efficient pumping from the basin. Therefore, the discharger needs to construct deeper storm water basins to facilitate the reuse of the storm water.

The Discharger submitted a report titled *Background Groundwater Data Summary and Evaluation of Potential Effects of Compost Affected Stormwater on Groundwater, Westlake Farms Composting Facility, Kings County, California*, dated 19 August 2009, (Groundwater Report), that summarized the extremely poor quality of native groundwater beneath the proposed facility and recommended a variance from Title 27 prescriptive standards for the design of the storm water retention basins. The Groundwater Report also assessed the performance of the Discharger's proposed

three-component liner system if constructed as a deeper basin than what would be allowed by Title 27 Section 20240(c). The Groundwater Report found the potential degradation of shallow groundwater by storm water that had come into contact with waste and that was stored in a hypothetical unlined surface impoundment was remote. The Groundwater Report also found that the proposed three-component liner system and deeper design would be even more protective of water quality. Using the storm water as a resource for the composting operation will reduce the residence time of the water in the basin and, therefore, further reduce the likelihood of the storm water passing through the bottom of the basin. Exemption from Title 27 is appropriate because the storm water runoff stored in the surface impoundment will not degrade water quality, with or without a liner.

Based on the representations made in the Groundwater Report, in a 29 December 2009 letter and memorandum, Central Valley Water Board staff found that: (1) the quality of the groundwater beneath the proposed facility would not be degraded by storm water stored in a hypothetical unlined basin; (2) storm water stored in the storm water basin with the proposed three-component liner system will not reach groundwater; (3) and maintaining the five-foot separation between the proposed lined storm water basin and groundwater (as prescribed in Title 27 Section 20240(c)) is not necessary for protection of groundwater quality. Also, groundwater is not likely to ever reach the elevation of the lowest point of the basin liner. Recorded groundwater levels have not been higher than 3.5 feet below grade. The bottom of the basin liner is at or near the same elevation of the ground surface and there is no evidence of groundwater reaching the ground surface (such as a spring) within one mile of the facility property.

Despite the evidence that the waste does not pose a threat of degradation, the WDRs require total containment of wastes on the composting facility and do not permit degradation of surface water or groundwater. Therefore, the discharge at the proposed facility will be consistent with the antidegradation provisions of State Water Resources Control Board Resolution No. 68-16.

The degradation of water quality from the application to land of composted biosolids to land was addressed by the State Water Resources Control Board when it considered Order No. 2004-0012-DWQ, *General Waste Discharge Requirements for the Discharge of Biosolids to Land For Use as a Soil Amendment in agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order)*.

The Regional Water Board is concerned with the potential long-term effects of salt and nutrient loading on surface and groundwater resources throughout the Central Valley. Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) is a collaborative planning effort aimed at developing and implementing a comprehensive

salinity and nitrate management program. The proposed WDRs require the Discharger to complete a Salinity Evaluation and Minimization Plan to identify sources of salinity in the discharge and measures available to minimize the concentration and mass loading of salinity. The WDRs may be reopened in the future to incorporate applicable recommendations from the CV-SALTS management program.

The Detection Monitoring Specifications and Monitoring and Reporting Program were developed based on some generally accepted Title 27 criteria as it provides a usable platform for evaluating monitoring data to determine compliance with waste discharge requirements.

The proposed WDRs require the Discharger to provide assurances of financial responsibility for corrective action and for clean closure.

The Kings County Board of Supervisors certified the final environmental impact report (EIR) for the facility on 20 April 2004, and filed a Notice of Determination on 21 April 2004 in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and CEQA guidelines (14 CCR Section 15000 et seq.). The EIR considered impacts to water quality, as well as to traffic and air quality.

On 21 May 2004, the Center for Race, Poverty, and the Environment (Center) filed a petition in Kings County Superior Court to set aside the approval of the EIR and the conditional use permit issued by the County of Kings. The Discharger settled with Center by agreeing to provide $30,000 per year to fund scholarships at the local community college in fields involving environmental protection and to use alternative fuel or clean fuel vehicles for transportation of feedstocks to the facility.

The Central Valley Water Board considered the environmental impact report and incorporated mitigation measures from the environmental impact report into the proposed WDRs designed to prevent potentially significant impacts to the environment and to water quality.

REH:9/22/10