

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2009-0018

WASTE DISCHARGE REQUIREMENTS
FOR
LIBERTY COMPOSTING, INC.
FOR
OPERATION
LIBERTY COMPOSTING FACILITY
KERN COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Central Valley Water Board) finds that:

1. Liberty Composting, Inc. (hereafter referred to as Discharger) a California Corporation, owns and operates a biosolids composting facility (facility) about 9 miles northwest of the community of Lost Hills in Section 4, T26S, R20E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order by reference.
2. The 162-acre facility consists of one waste management unit (Unit). The Unit contains three composting subunits totaling 135 acres and an approved 27-acre future composting subunit on which finished product can be stored as shown in Attachment B, which is incorporated herein and made part of this Order by reference. The facility is on Assessor's Parcel Number (APN) 057-210-05.
3. The Discharger proposes to develop the portion of the facility located on the east side of Holloway Road into an additional composting subunit.
4. On 6 September 2002, the Central Valley Water Board adopted Order R5-2002-0172, in which the facility was classified as Class II facility suitable for storage and treatment of nonhazardous solid waste or designated waste as a waste pile in accordance with Title 27, California Code of Regulations (CCR), Section 20005 et seq. (Title 27).
5. This Order will supercede and rescind Order R5-2002-0172, and is for the proposed waste pile expansion, to compost liquid biosolids and liquid food processing byproducts, and to reflect a reorganization and name change from San Joaquin Composting, Inc. to Liberty Composting, Inc.
6. On 9 February 2007, the Discharger submitted an amended Report of Waste Discharge (RWD) and a report describing recent operational changes at the facility. Information in the RWD was used in writing these waste discharge requirements (WDRs). The RWD contains the information required by Title 27 CCR, Chapter 4, Subchapter 3, Article 4.
7. The U.S. Environmental Protection Agency (USEPA) promulgated biosolids reuse regulations in 40 CFR Part 503, *Standards for the Use or Disposal of Sewage Sludge*, on 19 February 1993. These federal regulations establish management criteria for protection

of ground and surface waters, set application rates for heavy metals, and establish stabilization and disinfection criteria for biosolids reuse. These waste discharge requirements are consistent with the federal regulations.

8. The Central Valley Water Board is utilizing the standards contained in 40 CFR Part 503 as guidelines in establishing this Order; however, the Central Valley Water Board is not the implementing agency for 40 CFR Part 503. The Discharger may have permitting, reporting, and other compliance responsibilities with the USEPA. Compliance with this Order does not confer either full or partial compliance with 40 CFR Part 503.
9. The proposed finished compost product would not exceed the pollutant limits identified in 40 CFR Part 503.13(a)(3), satisfies Class A pathogen requirements as required in 40 CFR Part 503.32(a), and satisfies vector attraction reduction requirements, as defined in 40 CFR Part 503.33(a) (hereafter exceptional quality compost). Processed compost that does not meet the exceptional quality compost specifications will be reprocessed.
10. In accordance with 40 CFR Part 503, the exceptional quality compost can be sold or given away in bags, boxes, or a vehicle or trailer with a load capacity of one metric ton (1.1 tons) or less and it can be applied in bulk to agricultural land, forest land, reclamation sites, lawns, and home gardens.
11. The California Integrated Waste Management Board (CIWMB) has adopted regulations governing the composting of green material, animal material, sewage sludge, and municipal solid waste under Title 14, CCR, Division 30, Chapter 3.1. There are significant differences in the scope, authority, and focus of the CIWMB's regulations governing composting and the requirements necessary, under this Order, for the protection of water quality.
12. The facility's annual input capacity of composting feedstocks is 786,000 tons.
13. The Discharger owns and operates 20,000 acres of farmland in Kings County on which most of the finished compost is used as a soil amendment.
14. Uncomposted biosolids are stored away from the finished product to prevent pathogen cross contamination.

SITE DESCRIPTION

15. The measured hydraulic conductivity of the native soils beneath the composting subunits ranges from 1.1×10^{-4} to 7.2×10^{-6} centimeters per second (cm/sec) at depths less than three feet and is 2×10^{-6} cm/sec at 20 feet below ground surface.
16. The upper five feet of the native soils at the site are mildly alkaline (pH = 8.5), which can inhibit the vertical movement of heavy metals.

17. The San Andreas Fault Zone is the closest Holocene fault and is located approximately 22 miles west of the facility. The magnitude of the maximum probable earthquake is 8.25 on the Richter Scale. The peak horizontal ground acceleration at the site is calculated at 0.234g.
18. Land uses within 1,000 feet of the facility are agriculture, mining, and grazing.
19. The facility receives an average of 5.4 inches of precipitation per year as measured at the Wasco Station. The mean pan evaporation is 79.8 inches per year as measured at the Wasco Station.
20. The 100-year, 24-hour precipitation event is estimated to be 2.33 inches, based on Department of Water Resources' bulletin entitled *Rainfall Depth-Duration-Frequency for California*, revised November 1982, updated August 1986.
21. The facility is not within a 100-year flood plain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 060075-0050 B.
22. There are no known municipal, domestic, industrial, or agricultural groundwater supply wells within one mile of the site. No surface springs or other sources of groundwater supply have been observed.

SURFACE AND GROUND WATER CONDITIONS

23. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Tulare Lake Basin.
24. The facility is on the floor of the Antelope Plain in the southwestern San Joaquin Valley. Surface drainage is toward an unnamed creek in the Lost Hills in the Antelope Plain Hydrologic Area (558.60) of the Tulare Lake Basin. Surface waters in the Antelope Plain Hydrologic Area are designated as Valley Floor Waters in the Basin Plan. The designated beneficial uses of the Valley Floor Waters, as specified in the Basin Plan, are agricultural supply; industrial service and process supply; contact and non-contact water recreation; warm fresh water habitat; preservation of rare, threatened, and endangered species; and groundwater recharge.
25. The facility is in the Kern County Basin Hydrologic Unit, Detailed Analysis Unit (DAU) 259. The designated beneficial uses of the groundwater, as specified in the Basin Plan for DAU 259, are municipal and domestic water supply (MUN), agricultural supply, and industrial service supply.
26. The first encountered groundwater is in an unconfined aquifer about 90 feet below the native ground surface. Groundwater elevation is about 335 feet above mean sea level.

27. Results of groundwater monitoring at the facility indicate that the groundwater has an electrical conductivity that ranges from 4,200 to 8,900 micromhos per centimeter and a total dissolved solids (TDS) concentration that ranges from 3,660 to 8,850 milligrams per liter (mg/l). These concentrations exceed the California Recommended Secondary Drinking Water Standard for TDS of 500 mg/l contained in Title 22, CCR, Section 64449; and the USEPA Recommended Secondary Standard for TDS in drinking water of 500 mg/l.
28. Groundwater within one mile of the site is not suitable for use as a municipal and domestic water supply. TDS exceeds 3,000 mg/l and the water contains excessive amounts of chloride, sulfate, nitrate, arsenic, chromium, and lead. This water cannot be used for municipal or domestic supply without extensive treatment, which is not economical when excellent quality surface water (from the California Aqueduct) is available. It is therefore not expected to supply a public water system.
29. State Water Resources Control Board Order 97-03-DWQ (General Permit CAS000001), amended 17 April 1997, specifies waste discharge requirements for discharges of storm water associated with industrial activities, excluding construction activities, and requires submission of a Notice of Intent by industries to be covered under the permit. Waste disposal at landfills, including inert waste disposal facilities, is considered an industrial activity requiring submission of a Notice of Intent for coverage under the general permit if storm water is to be discharged off-site. The Discharger has not filed a Notice of Intent but has been, and intends to continue, collecting storm water on-site. As such, the submission of a Notice of Intent is not required.

COMPOSTING METHODS

30. Biosolids processed at the facility originate from wastewater treatment plants regulated by orders adopted by regional water boards both outside and within the Central Valley Region. The biosolids are tested by the generator prior to transport to the facility. Only biosolids that meet the requirements for nonhazardous biosolids specified in Title 22, CCR, Division 4.5, Chapter 11, Article 3, will be accepted.
31. Raw composting materials are delivered by truck. The materials are mixed on-site with bulking agents consisting of paper pulp, food processing and agricultural byproducts (manure, cotton stalks, etc.), yard residues, and organic liquids (residuals from animal and food processing facilities). Depending on the end use of the product, the portion of bulking agents used in the composting process will be up to 50%.
32. Occasionally the facility processes liquid biosolids received from wastewater treatment plants that do not have the capability to fully dewater their sludge. In such cases the liquid biosolids are mixed with and fully absorbed by feedstock before the mixture is placed in windrows. Liquid biosolids are not allowed to pond on the ground surface or come in direct contact with the composting pad.

33. The feedstock is placed in windrows (waste piles) and mechanically aerated at specified intervals. Each windrow is treated at a minimum of 55°C for a period of 15 consecutive days. During the high temperature period, the windrow is turned and aerated at least five (5) times. The composting period generally requires 30 to 60 days to complete. The composting operation is consistent with the windrow composting method prescribed in 40 CFR Part 503, Appendix B, Section 1.
34. The Discharger may employ an alternative composting method called the static aerated pile composting method, which is also prescribed in 40 CFR Part 503, Appendix B, Section 1. Using the static aerated pile composting method, the temperature of the compost mixture is maintained at 55 °C or higher for three days. Organic liquids are not used as a material feedstock for static aerated pile composting.

WASTE CLASSIFICATION AND UNIT CLASSIFICATION

35. Section 13273 of the California Water Code, Section 13000 et seq. (CWC), defines designated waste as nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state, or hazardous waste that has been granted a variance from hazardous waste management requirements pursuant to Section 25143 of the Health and Safety Code.
36. Section 20220 of Title 27 defines nonhazardous solid waste as all putrescible and nonputrescible solid, semi-solid, and liquid wastes that do not contain wastes that must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentrations which exceed applicable water quality objectives, or could cause degradation of waters of the state.
37. The Discharger proposes to discharge waste consisting of biosolids, agricultural byproducts, yard residues, and organic liquids that are compostable residuals from municipal wastewater treatment facilities, agricultural, commercial, and residential sources. These wastes will be mixed with bulking agents consisting of paper pulp, food processing and agricultural byproducts, yard residues, and organic liquids (residuals from animal and food processing facilities). Some biosolids contain metal concentrations above hazardous levels, as determined pursuant to Title 22, CCR, Priority Pollutant Metals. Only those biosolids that have received a variance from management as hazardous waste from the Department of Toxic Substances Control will be accepted.
38. Biosolids and other feedstocks contain metals, nitrogen compounds, salts, and microorganisms, including disease-causing pathogens.
39. Soil beneath the composting area is sampled annually and analyzed for pH and priority pollutant metals. Samples from the surface impoundments are also analyzed for pH and

priority pollutant metals. None of these waste constituents have been detected at concentrations exceeding background levels.

40. The wastes discharged at the facility do not appear to contain soluble pollutants in concentrations that exceed water quality objectives, or will cause degradation of waters of the state. Therefore, in accordance with Section 20220(a) of Title 27, the wastes are classified as non-hazardous solid wastes
41. Section 20164 of Title 27 defines a waste pile as a waste management unit at which only noncontainerized bulk, dry solid waste is discharged and piled for treatment or storage on an engineered liner system that prevents the waste from contacting the underlying land surface. The treatment of wastes by composting in windrows and static aerated piles is consistent with the definition of a waste pile.
42. The State Water Board has adopted a body of regulations, under Title 27, consisting of requirements, waste classifications, and waste management unit classifications designed to provide protection to the beneficial uses of waters of the state for projects involving the discharge of solid waste to land for treatment, storage, or disposal at landfills, surface impoundments, waste piles, and land treatment units. Under this scheme, a composting operation that does not involve the processing of hazardous constituents would be a Class II waste pile for the treatment and storage of solid waste.
43. The site characteristics [including the depth to groundwater (Finding No. 26); the background quality of groundwater (Finding No. 27); annual precipitation (Finding No. 19); flooding (Finding No. 21); and ground rupture (Finding No. 17) meet the siting criteria for a Class III Unit contained in Section 20260(a-d) of Title 27. Construction of a soil liner compacted to a hydraulic conductivity of 10^{-6} cm/sec or less, in conjunction with the site characteristics, makes the Unit suitable as a Class II waste pile in accordance with Section 20250 of Title 27.

GROUNDWATER AND UNSATURATED ZONE MONITORING

44. The existing groundwater detection monitoring system consists of three monitoring wells; MW-1, MW-2, and MW-3. Wells MW-1 and MW-2 are downgradient and well MW-3 is an upgradient background well.
45. On-site suction lysimeters installed in the vadose zone beneath the composting, stockpile, and surface impoundment areas were abandoned in 1996 because it was determined that the lysimeters were ineffective in obtaining samples from the dry soils.
46. Unsaturated zone monitoring consists of annual soil profile testing. Sampling is performed at 15 random locations between and beneath the compost windrows. A discrete soil sample is collected at approximately six-inches below ground surface. The soil samples are analyzed for moisture content, pH, and total concentrations of priority pollutant metals, as defined by Title 22, CCR, §66261.24. The results are compared with

results of background sampling and analyses performed prior to construction. Annual soil profile monitoring reports submitted from December 1990 to January 2008 indicate that soil samples taken at multiple locations and depths beneath the composting area show no significant increase in metals concentrations.

47. The Discharger's detection monitoring program for groundwater at this Unit satisfies the requirements contained in Title 27.

UNIT CONSTRUCTION

48. The top one-foot of the storage and treatment areas are compacted to 90 percent dry density to obtain a uniform hydraulic conductivity of 1×10^{-6} cm/sec., and graded to within one-tenth of one foot of grade to obtain a uniform working surface to inhibit vertical migration of wastes.
49. Each composting subunit has a two-foot high, eight-foot wide earthen berm around its perimeter and a lined surface impoundment. The berms prevent lateral movement of fluids, runoff and runoff of stormwater, and the surface impoundment collects rainfall runoff from the composting subunit.

CEQA AND OTHER CONSIDERATIONS

50. A mitigated negative declaration for the composting facility was approved by the County of Kern on 2 October 1989. The mitigated negative declaration identified potentially significant impacts to water quality and found that the impacts would be mitigated by a self-monitoring program that would monitor groundwater quality on a semi-annual basis and a berm constructed around the facility perimeter to prevent storm water run-on and run-off. WDRs Order 90-231 was adopted by the Central Valley Water Board on 10 August 1990. In addition to the mitigative measures contained in the negative declaration, Order 90-231 required the Discharger to monitor the vadose zone, construct storm water basins, compact the soil subbase that would serve as the foundation for the composting units to inhibit vertical migration of wastes, and implement a load-checking program.
51. On 24 April 1995, the County of Kern approved a mitigated negative declaration for expansion of the composting facility from 126 acres to 162 acres and for an increase of the maximum intake of compost feedstock to 786,000 tons per year. The mitigation measures from the 1989 negative declaration were incorporated into the 1995 document. The Central Valley Water Board adopted WDRs in 1996, 2000, and 2002 that included monitoring, construction, and operating requirements that were protective of water quality.
52. The Kern County Planning Department, as lead agency, has determined that the mitigated negative declaration is adequate and that the changes proposed by the Discharger are not subject to CEQA. Central Valley Water Board Staff reviewed the mitigated negative declaration and found it to be adequate for the changes proposed by the Discharger for the following reasons:

- a. Although new compost feedstocks are being added, the nature of the waste should not change,
- b. The volume of waste is not changing, and
- c. The changes proposed for the waste treatment process do not change the threat to water quality.

53. This order implements:

- a. The Water Quality Control Plan for the Tulare Lake Basin, Second Edition; and
- b. The prescriptive standards and performance goals of Chapters 1 through 7, Subdivision 1, Division 2, Title 27, of the California Code of Regulations, effective 18 July 1997 and subsequent revisions.

54. The USEPA is the enforcing agency for 40 CFR Part 503. The Discharger needs to comply with all applicable provisions of 40 CFR Part 503.

55. The wastes proposed for discharge contain a limited amount of moisture that is absorbed during the composting process. The Unit experiences annual evaporation nearly fifteen times the annual precipitation, and is underlain by a relatively low hydraulic conductivity vadose zone to a depth of at least 20 feet. No leachate is expected to form from the material discharged at the site under ambient environmental conditions; if any leachate does form, it will be absorbed during the composting process; and, in the improbable event any pollutant is solubilized in volume sufficient to be released from the Unit, the pollutants will likely be at a concentration lower than background concentrations and be attenuated in the vadose zone. For these reasons, the Unit, if operated in accordance with this Order, will not cause or contribute to degradation of groundwater, and will not contribute to the existing exceedances of total dissolved solids in groundwater. This Order requires total containment of wastes and does not permit degradation of groundwater. Further antidegradation analysis is not needed. The permitted discharge is consistent with the antidegradation provisions of State Water Board Resolution 68-16.

56. Section 13267(b) of the CWC provides that: "In conducting an investigation specified in subdivision (a), the regional water board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of having discharged or discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional water board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports."

57. The technical reports required by this Order and the attached "Monitoring and Reporting Program No. R5-2009-0018" are necessary to assure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

PROCEDURAL REQUIREMENTS

58. All local agencies with jurisdiction to regulate land use, solid waste discharge, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.

59. The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

60. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

61. Any person affected by this action of the Central Valley Water Board may petition the State Water Resources Control Board to review the action in accordance with Sections 2050 through 2068, Title 23, California Code of Regulations. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812, within 30 days of the date of issuance of this Order. Copies of the laws and regulations applicable to the filing of a petition are available on the Internet at http://www.waterboards.ca.gov/water_laws/index.html and will be provided on request.

IT IS HEREBY ORDERED, pursuant to Sections 13263 and 13267 of the California Water Code, that Order R5-2002-0172 is rescinded, and that Liberty Composting, Inc., its agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of 'hazardous waste' or 'designated waste', or any waste not specifically described by this Order (see Finding No. 37) is prohibited. For the purposes of this Order, the term 'hazardous waste' is as defined in Title 23, California Code of Regulations, Section 2510 et seq., and 'designated waste' is as defined in Section 20210 of Title 27.
2. The discharge of wastes outside of a Unit as specifically shown on "Attachment B" is prohibited.

3. The discharge of waste to a closed Unit is prohibited.
4. The discharge of waste constituents to the unsaturated zone or to groundwater is prohibited.
5. The discharge of solid or liquid waste to surface waters or surface water drainage courses is prohibited.
6. The discharged wastes shall not cause the release of pollutants or waste constituents in a manner which could cause a condition of degradation, contamination, or pollution of groundwater to occur, as indicated by the most appropriate statistical or nonstatistical data analysis method and retest method listed in this Order, the Monitoring and Reporting Program, or the Standard Provisions and Reporting Requirements.
7. Discharge of wastes or composting, stockpiling, storing, or placing raw composting materials or finished compost within 100 feet of surface waters, surface water drainage courses, or any domestic water well is prohibited.
8. Utilization of a composting subunit without the site drainage and collection features constructed as described in Finding Nos. 49 and 50 is prohibited.
9. Composting, stockpiling, or otherwise accepting raw sewage, septic tank pumpings, incinerator ash, grit or screenings generated from primary treatment of domestic sewage, or drinking water treatment sludge, is prohibited.
10. Selling or providing a finished product other than exceptional quality compost, as described in Finding Nos. 9 and 10, is prohibited.
11. Discharge of wastes or liquids from surface impoundments to off-site property is prohibited.
12. Ponding of water around waste storage areas, between compost windrows, adjacent to interior roads, and within the composting subunit(s) precipitation runoff collection channels, is prohibited.

B. DISCHARGE SPECIFICATIONS

1. Discharged wastes shall be limited to biosolids that are compostable residuals from municipal wastewater treatment facilities. These wastes will be mixed with bulking agents consisting of paper pulp, food processing and agricultural byproducts, yard residues, and organic liquids (residuals from animal and food processing facilities) from agricultural, commercial, and residential sources. Other compostable bulking agents can be used following approval by the Executive Officer.

2. The annual input/capacity of uncomposted feedstocks at the facility shall not exceed 786,000 tons.
3. Biosolids which have not undergone active composting shall be physically isolated from other site activities to prevent cross contamination of feedstocks, composting materials, and finished product.
4. The storage of biosolids will not exceed nine (9) months. Biosolids stored in excess of nine (9) months shall be composted on site.
5. Liquids removed from a surface impoundment may be recycled onto the compost piles.
6. Solids which accumulate in the surface impoundment(s) shall be periodically removed to maintain minimum freeboard requirements and to maintain sufficient capacity for waste pile pad runoff of residual wastes and stormwater.

C. FACILITY SPECIFICATIONS

1. The Discharger shall immediately notify the Central Valley Water Board of any flooding, unpermitted discharge of waste off-site, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste containment facilities or precipitation and drainage control structures in accordance with Provision F.6.
2. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control and construction.
3. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with this Order.
4. Surface drainage within the facility and the composting subunits shall either be contained on-site or be discharged in accordance with a *Storm Water Pollution Prevention Plan and Monitoring Program and Reporting Requirements* in accordance with State Water Resources Control Board Order 97-03-DWQ.
5. Surface impoundments and composting operations shall be managed to prevent the breeding of mosquitoes.
6. Public contact with the waste and compost shall be precluded through such means as fences and signs, or other acceptable alternatives.
7. Annually, prior to the anticipated rainy season, but no later than 1 October, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities

shall be completed to prevent erosion or flooding of the facility and to prevent surface drainage from contacting or percolating through wastes.

D. CONSTRUCTION SPECIFICATIONS

1. The Discharger shall submit for review and approval **prior to** construction, design plans and specifications for new Units and expansions of existing Units, that include the following:
 - a. A Construction Quality Assurance Plan meeting the requirements of Title 27 CCR Section 20324;
 - b. A geotechnical evaluation of the area soils, evaluating their use as the base layer; and
 - c. A grading and drainage plan to prevent ponding and infiltration.
2. The Discharger shall construct a liner system beneath the composting subunit which consists of a compacted native soil layer that is a minimum of one foot thick with a maximum hydraulic conductivity of 1×10^{-6} cm/sec and compacted to 90 percent maximum dry density, graded to obtain a uniform, smooth working surface, free of pockets and depressions, and to inhibit the vertical migration of wastes.
3. New surface impoundments shall have a liner system consisting, at a minimum, of the following, in ascending order:
 - a. A minimum one-foot thick native soil layer exhibiting a maximum hydraulic conductivity of 1×10^{-6} cm/sec, compacted to 90 percent dry density;
 - b. A synthetic flexible membrane component in direct and uniform contact with the compacted soil layer; and
 - c. A protective soil cover layer placed in a manner that does not damage the synthetic membrane.
4. After the protective soil cover layer is installed, the entire base liner system shall be tested for the presence of defects using the electrical leak detection survey method. All detected defects shall be repaired before waste is discharged to the Unit. The location and nature of each detected defect shall be noted in the construction report.
5. Surface impoundments shall be designed, constructed, and operated to maintain a minimum freeboard of two feet plus the rainfall and residual waste produced from a 100-year, 24-hour precipitation event or two feet plus the 100-year wet season precipitation, whichever is greater. At no time shall the freeboard of an impoundment be less than two feet.

6. Surface impoundments shall be designed, constructed, and maintained to prevent scouring and/or erosion of the liner(s) and other containment features at points of discharge to the impoundment and by wave action at the waterline.
7. The Discharger may propose changes to the liner system design prior to construction, provided that approved components are not eliminated, the engineering properties of the components are not substantially reduced, and the proposed liner system results in the protection of water quality equal to or greater than the design prescribed by Title 27 and this Order. The proposed changes may be made following approval by the Executive Officer. Substantive changes to the design require reevaluation as an engineered alternative and approval by the Central Valley Water Board.
8. Construction shall proceed only after all applicable construction quality assurance plans have been approved.
9. Following the completion of construction of a Unit or portion of a Unit, and prior to discharge onto the newly constructed liner system, the final documentation required in Title 27 CCR Section 20324(d)(1)(C) shall be submitted for review and approval. The report shall be certified by a registered civil engineer or a certified engineering geologist. It shall contain sufficient information and test results to verify that construction was in accordance with the design plans and specifications and with the prescriptive standards and performance goals of Title 27.
10. A third party independent of both the Discharger and the construction contractor shall perform all of the construction quality assurance monitoring and testing during the construction of a liner system.
11. Closure shall not proceed in the absence of closure waste discharge requirements.

E. DETECTION MONITORING SPECIFICATIONS

1. The Discharger shall submit for review and approval a groundwater detection monitoring program demonstrating compliance with Title 27 for any expansion of the composting subunit(s).
2. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater and the unsaturated zone, and in accordance with Monitoring and Reporting Program No. R5-2009-0018. A detection monitoring program for a new Unit shall be installed, operational, and one year of monitoring data collected prior to the discharge of wastes [Title 27 CCR Section 20415(e)(6)].
3. The Discharger shall provide Central Valley Water Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation, repair, or abandonment of monitoring devices, and a minimum 48-hour notification prior to the collection of samples associated with a monitoring program.

4. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, Monitoring and Reporting Program No. R5-2009-0018, and the *Standard Provisions and Reporting Requirements*, dated April 2000.
5. The Water Quality Protection Standard for organic compounds that are not naturally occurring and not detected in background groundwater samples shall be taken as the detection limit of the analytical method used (i.e., USEPA methods 8260 and 8270). The presence of non-naturally occurring organic compounds in samples above the Water Quality Protection Standard from detection monitoring wells is evidence of a release from the Unit unless the Discharger can demonstrate that the Unit is not the cause pursuant to Section 20420(k)(7) of Title 27.
6. The concentrations of the constituents of concern in waters passing the Point of Compliance shall not exceed the concentration limits established pursuant to Monitoring and Reporting Program No. R5-2009-0018.
7. For each monitoring event, the Discharger shall determine whether the facility is in compliance with the Water Quality Protection Standard using procedures specified in Monitoring and Reporting Program No. R5-2009-0018 and Title 27 CCR Section 20415(e).
8. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken **within a span not to exceed 30 days**, unless the Executive Officer approves a longer time period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible.
9. Specific methods of collection and analysis must be identified. Sample collection, storage, and analysis shall be performed according to the most recent versions of United States Environmental Protection Agency (USEPA) methods, such as the latest editions, as applicable, of: (1) *Methods for the Analysis of Organics in Water and Wastewater* (USEPA 600 Series), (2) *Test Methods for Evaluating Solid Waste* (SW-846, latest edition), and (3) *Methods for Chemical Analysis of Water and Wastes* (USEPA 600/4-79-020), and in accordance with the approved Sample Collection and Analysis Plan.
10. If methods other than USEPA-approved methods or those found in the latest edition of *Standard Methods for the Examination of Water and Wastewater*, prepared and published by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation; are used, the exact methodology shall be submitted for review and approval prior to use.
11. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations that produce more than 90% non-numerical determinations

(i.e., “trace” or “ND”) in data from background monitoring points for that medium, the analytical method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.

12. **“Trace” results** - results falling between the MDL and the practical quantitation limit (PQL) - shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.
13. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.
14. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. The **MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99% reliability of a nonzero result.** The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent’s actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.
15. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recoveries. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.
16. **Unknown chromatographic peaks** shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.

17. The statistical method shall account for data below the PQL with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to Title 27 CCR Section 20415(e)(7) that is used in the statistical method shall be **the lowest concentration (or value) that can be reliably achieved** within limits of precision and accuracy specified in the WDRs for routine laboratory operating conditions that are available to the facility. The Discharger's technical report, pursuant to Title 27 CCR Section 20415(e)(7), shall consider the PQLs listed in Appendix IX to Chapter 14 of Division 4.5 of Title 22, CCR, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, an indication that falls between the MDL and the PQL for that constituent (hereinafter called a "trace" detection) shall be identified and used in appropriate statistical or nonstatistical tests. Nevertheless, for a statistical method that is compatible with the proportion of censored data (trace and ND indications) in the data set, the Discharger can use the laboratory's concentration estimates in the trace range (if available) for statistical analysis, in order to increase the statistical power by decreasing the number of "ties."
18. The Discharger may propose an alternate statistical method [to the methods listed under Title 27 CCR Section 20415(e)(8)(A-D)] in accordance with Title 27 CCR Section 20415(e)(8)(E), for review and approval by the Executive Officer. Upon receiving written approval from the Executive Officer, alternate statistical procedures may be used for determining the significance of analytical results for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Central Valley Water Board staff.
19. The Discharger shall use the nonstatistical method specified in Detection Monitoring Specification D.20 for all constituents which are not amenable to the statistical tests described above (i.e., less than 10% of the data from background samples that equal or exceed their respective MDL). This includes all constituents in the Monitoring Parameters and for all Constituents of Concern (COC) found in groundwater and unsaturated zone (in soil-pore liquid or gas). Each constituent at a monitoring point shall be determined to meet this criterion based on either:
 - a. The results from a single sample for that constituent, taken during that reporting period from that monitoring point; or
 - b. If more than one sample has been taken during a reporting period from a monitoring point, the results from the sample which contains the largest number of qualifying constituents shall be used.

Background for water samples shall be represented by the data from all samples taken from applicable background monitoring points during that reporting period (at

least one sample from each background monitoring point). The Discharger may propose an alternate statistical method [to the methods listed under Title 27 CCR Section 20415(e)(8)(A-D) in accordance with Title 27 CCR Section 20415(e)(8)(E), for review and approval by the Executive Officer.

20. The nonstatistical method shall be implemented as follows:

- a. For every compliance well, regardless of the monitoring program, the Discharger shall use this data analysis method, jointly, for all monitoring parameters and COCs that are detected in less than 10% of background samples. Any COC that triggers a discrete retest per this method shall be added to the monitoring parameter list.

Triggers — From the monitoring parameters and COC list, identify each constituent in the current sample that exceeds either its respective MDL or PQL. The Discharger shall conclude that the exceedance provides a preliminary indication [or, for a retest, provide a measurably significant indication] of a change in the nature or extent of the release, at that well, if either:

- 1) The data contain two or more qualifying monitoring parameters and/or COCs that are detected in less than 10% of background samples that equal or exceed their respective MDLs; or
 - 2) The data contain one qualifying monitoring parameter and/or COC that equals or exceeds its PQL.
- b. Discrete Retest [Title 27 CCR Section 20415(e)(8)(E)]:
 - 1) In the event that the Discharger concludes (pursuant to paragraph 20.a., above) there is a preliminary indication of a release, the Discharger shall immediately notify Central Valley Water Board staff by phone or e-mail and, within 30 days of such indication, shall collect two new (retest) samples from the indicating compliance well.
 - 2) For any given compliance well retest sample, the Discharger shall include, in the retest analysis, only the laboratory analytical results for those constituents indicated in that well's original test. As soon as the retest data are available, the Discharger shall apply the same test [under 20.a.], to separately analyze each of the two suites of retest data at that compliance well.
 - 3) If either (or both) of the retest samples meets either (or both) of the triggers under 20.a., the Discharger shall conclude that there is a measurably significant increase at that well for the constituent(s) indicated in the validating retest sample(s).

21. If the Executive Officer determines, after reviewing the submitted report, that the detected constituent(s) most likely originated from the Unit, the Discharger shall **immediately** implement the requirements of XI. Response To A Release, C. Release Has Been Verified, contained in the Standard Provisions and Reporting Requirements.

F. PROVISIONS

1. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.
2. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
3. The Discharger shall comply with Monitoring and Reporting Program No. R5-2009-0018, which is incorporated into and made part of this Order.
4. The Discharger shall comply with the applicable portions of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (Title 27 CCR Section 20005 et seq. and 40 CFR 258 et seq.)*, dated April 2000, which are hereby incorporated into this Order.
5. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.
6. In the event the Discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Discharger shall notify the appropriate Central Valley Water Board office by telephone **as soon as** it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within two weeks**. The written notification shall state the nature, time, and cause of noncompliance, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.
7. The composting operation shall comply with the windrow composting or static aerated pile composting requirements specified in 40 CFR Part 503, for the production of compost.
8. At least **90 days** prior to the cessation of composting operations at the facility, the Discharger shall submit a work plan, subject to review and approval, for assessing the extent, if any, of contamination of natural geologic materials. Within **120 days** following work plan approval, the Discharger shall submit an engineering report presenting the results of the contamination assessment.

9. Upon ceasing composting operations at the facility, all wastes, natural geologic materials contaminated by wastes (as determined pursuant to Provision F.8), and surplus or unprocessed composting materials shall be completely removed from the site and disposed of in a manner approved by Central Valley Water Board staff.
10. All reports and transmittal letters shall be signed by persons identified below:
 - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
 - b. A duly authorized representative of a person designated in a. above if;
 - 1) The authorization is made in writing by a person described in a. of this provision;
 - 2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a Unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - 3) The written authorization is submitted to the Central Valley Water Board.
 - c. Any person signing a document under this Section shall make the following certification:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”
11. The Discharger shall take all reasonable steps to minimize any adverse impact to the waters of the State resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.
12. The owner of the waste management facility shall have the continuing responsibility to assure protection of waters of the state from discharged wastes and leachate generated by discharged waste during the active life, closure, and postclosure maintenance period of the Unit(s) and during subsequent use of the property for other purposes.

13. The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order shall not be regarded as a defense for the Discharger's violations of the Order.
14. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Central Valley Water Board requesting transfer of the Order within 14 days of assuming ownership or operation of this facility. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory requirements contained in Provision F.10 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer of this Order shall be approved or disapproved by the Central Valley Water Board.
15. The Discharger shall, by **30 April of each year**, submit for approval by the Executive Officer, a demonstration of assurances of financial responsibility to ensure closure and post-closure maintenance of the waste management unit in accordance with its approved closure and post-closure maintenance plans. The Discharger shall provide the assurances of financial responsibility to the Central Valley Water Board as required by Title 27 CCR, Division 2, Subdivision 1, Chapter 3, Section 20950(f). The assurances of financial responsibility shall provide that funds for closure and post-closure maintenance with respect to water quality shall be available to the Central Valley Water Board upon the issuance of any order under California Water Code, Division 7, Chapter 5. The Discharger shall adjust the cost annually to account of inflation and any changes in facility design, construction, or operation.
16. The Discharger shall, by **30 April of each year**, submit for approval by the Executive Officer, plans with detailed cost estimates and a demonstration of assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from the waste management unit. The Discharger shall provide the assurances of financial responsibility to the Central Valley Water Board as required by Title 27 CCR, Division 2, Subdivision 1, Chapter 3, Section 20380. The assurances of financial responsibility shall provide that funds for corrective action shall be available to the Central Valley Water Board upon the issuance of any order under California Water Code, Division 7, Chapter 5. The Discharger shall adjust the cost annually to account of inflation and any changes in facility design, construction, or operation.
17. If a single mechanism of financial assurances is used for closure and post-closure maintenance and corrective action, the financial assurance must be sufficient for all requirements.

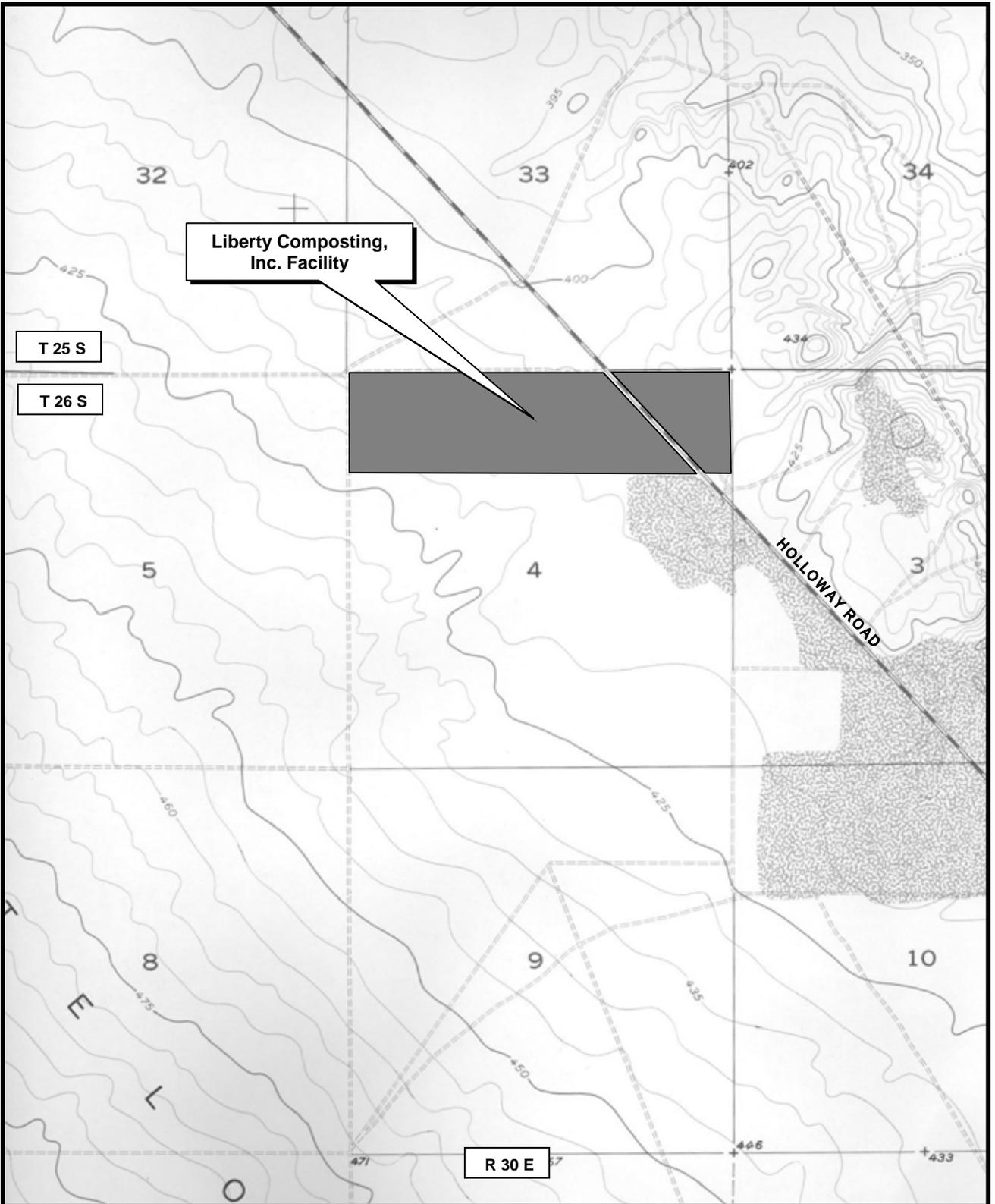
18. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

<u>Task</u>	<u>Compliance Date</u>
A. Construction Plans	
Submit construction and design plans for review and approval. (see Construction Specification D.1)	90 days prior to construction
B. Construction Report	
Submit a construction report for review and approval upon completion demonstrating construction was in accordance with approved construction plans. (see Construction Specification D.9)	Prior to discharge
C. Financial Assurance Cost Estimates	
Annual Review of Financial Assurance for initiating and completing corrective action and closure. (see Provisions F.15 and 16)	30 April each year
D. Financial Assurances	
Establish a mechanism(s) for financial assurance for closure and post-closure maintenance, and corrective action. (See Provisions F. 15, 16, and 17)	by 30 April 2009

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 5 February 2009.

PAMELA C. CREEDON, Executive Officer

REH: 12/9/2008



NORTH

SCALE
1 INCH = 2,000 FEET

Map Source: Antelope Plain USGS 7.5 Minute Quadrangle (REH 11/2008)

ATTACHMENT A

SITE LOCATION MAP

ORDER NO. R5-2009-0018

WASTE DISCHARGE REQUIREMENTS
LIBERTY COMPOSTING, INC.
FOR OPERATION
LIBERTY COMPOSTING FACILITY
KERN COUNTY

33

STORMWATER
IMPOUNDMENTS

HOLLOWAY ROAD

APPROVED
FUTURE
COMPOSTING
AREA

COMPOSTING
SUBUNIT 3

COMPOSTING
SUBUNIT 2

COMPOSTING
SUBUNIT 1

4



NORTH

SCALE
1 INCH = 800 FEET

(REH 11/2008)

ATTACHMENT B

SITE MAP

ORDER NO. R5-2009-0018

WASTE DISCHARGE REQUIREMENTS
LIBERTY COMPOSTING, INC.
FOR OPERATION
LIBERTY COMPOSTING FACILITY
KERN COUNTY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2009-0018
FOR
LIBERTY COMPOSTING, INC.
FOR
OPERATION
LIBERTY COMPOSTING FACILITY
KERN COUNTY

Compliance with this Monitoring and Reporting Program; Title 27, California Code of Regulations, Section 20005, et seq. (hereafter Title 27); and the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (27 CCR §20005 et seq. and 40 CFR 258)*, dated April 2000, is ordered by Waste Discharge Requirements Order R5-2009-0018.

A. REQUIRED MONITORING REPORTS

<u>Report</u>	<u>Due</u>
1. Groundwater Monitoring (Section D.1)	See Table I
2. Annual Monitoring Summary Report (Order No. R5-2002-0172, E.6)	Annually
3. Surface Impoundment Monitoring (Section D.2)	Annually
4. Compost Temperature Monitoring (Section D.3)	Semiannually
5. Quantities (Section D.4)	Semiannually
6. Sludge Monitoring (Section D.5)	Semiannually
7. Soil Profile Monitoring (Section D.6)	Annually
8. Facility Monitoring (Section D.7)	As stipulated
9. Response to a Release (Standard Provisions and Reporting Requirements)	As necessary

B. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in Order R5-2009-0018 and the Standard Provisions and Reporting Requirements. 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 Monitoring and Reporting Program.

Field and laboratory tests shall be reported in each monitoring report. Monthly, quarterly, semiannual, and annual 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.

<u>Sampling Frequency</u>	<u>Reporting Frequency</u>	<u>Reporting Periods End</u>	<u>Report Date Due</u>
Daily/Monthly	Semiannually	30 June	31 July
		31 December	31 January
Quarterly	Semiannually	31 March	31 July
		30 June	31 July
		30 September	31 January
		31 December	31 January
Semiannually	Semiannually	30 June	31 July
		31 December	31 January
Annually	Annually	31 December	31 January

The Discharger shall submit an **Annual Monitoring Summary Report** to the Central Valley Water Board covering the previous monitoring year. The annual report shall contain the information specified in "E. Reporting Requirements", in this Monitoring and Reporting Program, 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 or observations made.

C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. Water Quality Protection Standard Report

For each waste management unit (Unit), the Water Quality Protection Standard shall consist of all constituents of concern, the concentration limit for each constituent of concern, the point of compliance, and all water quality monitoring points for each monitored medium. The Water Quality Protection Standard, or any modification thereto, shall be submitted in a report for review and approval.

The report shall:

- a. Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a Unit or portion of a Unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.
- b. Include a map showing the monitoring points and background monitoring points for the surface water monitoring program, groundwater monitoring program, and the unsaturated zone monitoring program. The map shall include the point of compliance in accordance with §20405 of Title 27.
- c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).

The Water Quality Protection Standard shall be certified by a California-registered civil engineer or professional geologist as meeting the requirements of Title 27. If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the Water Quality Protection Standard.

2. Constituents of Concern

The constituents of concern include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit. The constituents of concern for all Units at the facility are those listed in Table I. The Discharger shall monitor all constituents of concern every five years, or more frequently as required in accordance with a Corrective Action Program.

a. Monitoring Parameters

Monitoring parameters are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a Unit. The monitoring parameters for all Units are those listed in Table I for the specified monitored medium.

3. Concentration Limits

The concentration limits for each constituent of concern are as follows:

- a. For anthropogenic (not naturally occurring) constituents, which have no natural, and therefore, no background values, the concentration limit (water quality protection standard) shall be the detection limit of the analytical method(s) used.
- b. For each naturally occurring waste constituent of concern, the concentration limit (applicable suite of background data) for that constituent shall be determined utilizing the inter-well tolerance limit method and groundwater statistical analysis computer program (such as SanitasTM). The upper tolerance limit shall be calculated from inorganic monitoring data obtained from the background monitoring well(s) and the concentrations of inorganic constituents from downgradient compliance wells compared to the upper tolerance levels. The analytical data from each sampling event shall be used to update the tolerance limits.

Currently established concentration limits for naturally occurring constituents of concern are listed in Table II.

4. Point of Compliance

The point of compliance for the water quality protection standard at each Unit is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit.

5. Compliance Period

The compliance period for the Unit, as defined by Title 27, shall be the number of years equal to the active life of the Unit plus the closure period. The compliance period for the Unit is 27 years. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the Unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program.

D. MONITORING

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone. Detection monitoring for a new Unit shall be installed, operational, and one year of monitoring data collected **prior to** the discharge of wastes. All monitoring shall be conducted in accordance with a Sample Collection and Analysis Plan, which includes quality assurance/quality control standards, that is acceptable to the Executive Officer.

All point of compliance monitoring wells established for the detection monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection groundwater monitoring wells shall be sampled and analyzed for monitoring parameters and constituents of concern as indicated and listed in Table I.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those which cannot be quantified and/or specifically identified. Metals shall be analyzed in accordance with the methods listed in Table I.

The Discharger may use alternative analytical test methods, including new USEPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program.

1. Groundwater

The Discharger shall operate and maintain a groundwater detection monitoring system that complies with the applicable provisions of Title 27 CCR Section 20415 and Section 20420 in accordance with an approved Detection Monitoring Program. The detection monitoring system shall be certified by a California-licensed professional engineer or geologist as meeting the requirements of Title 27. The Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.

The Discharger shall determine the groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional zone of saturation monitored pursuant to this Monitoring and Reporting Program, and report the results semiannually, including the times of highest and lowest elevations of the water levels in the wells.

Hydrographs of each well shall be submitted showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared quarterly and submitted annually.

Groundwater samples shall be collected from the point-of-compliance wells, background wells, and any additional wells added as part of the approved groundwater monitoring system. Samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in Table I.

The monitoring parameters shall also be evaluated each reporting period with regards to the cation/anion balance, and the results shall be graphically presented using a Stiff diagram, a Piper graph, or a Schoeller plot. Samples for the constituents of concern specified in Table I shall be collected and analyzed in accordance with the methods where listed in Table I.

2. Surface Impoundment Monitoring

Water in the storm water surface impoundments collected as a result of precipitation runoff shall be sampled and analyzed semiannually for total concentrations of metals listed in Title 22 CCR §66261.24(a)(2)(A).

The freeboard on the storm water surface impoundments shall be measured **monthly** from April through September and **weekly** from November through April. Measurements shall be to the nearest one-tenth of a foot. Permanent markers shall be placed in each surface impoundment with calibrations

indicating the water level at design capacity and available operational freeboard. This information shall be **reported annually**.

3. Compost Temperature Monitoring

Windrow temperatures shall be measured and recorded on a daily basis. Temperature monitoring will be done in accordance with United States Environmental Protection Agency (USEPA) and California Integrated Waste Management Board (CIWMB) composting guidelines and requirements.

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

<u>Constituent</u>	<u>Units</u>	<u>Monitoring Frequency</u>
Windrow Temperatures	°C	Daily ¹
Length of Windrow	Feet	Daily ¹

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

4. Quantities

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

<u>Constituent</u>	<u>Units</u>	<u>Monitoring Frequency</u>
Sludge Received	Tons (wet)	Monthly
Bulking Agents Received	Tons (wet)	Monthly
Exceptional Quality Compost Shipped Off-Site ¹	Tons (wet)	Monthly
Precipitation	Inches ²	Monthly
Liquid Biosolids Received	Tons (wet)	Monthly
Organic Liquids	Tons ³	Monthly

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

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

3. Based on approximately 7.4 gallons/pound.

5. Sludge Monitoring

For each source of municipal sludge received and for each load check performed, the Discharger shall provide analytical results for the following constituents:

Total Kjeldahl Nitrogen
Nitrogen
Nitrates
Title 22, CCR, Priority Pollutant Metals¹
Total Dissolved Solids
Percent Solids
pH
Total Coliform Organism

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

For each source of municipal sludge, the above analyses shall be performed at least on a semi-annual basis, and **reported semiannually**. Accompanying the analytical results shall be verification of sludge 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. Soil Profile Monitoring

Soil samples shall be collected annually at all of the boring locations indicated in the Soil Profile Monitoring Plan, and **reported in the annual report**. Soil samples shall be collected at a depth of six (6) inches to one (1) foot below ground surface at the windrow locations. Samples shall be analyzed for moisture content, pH, and total concentrations of priority pollutant metals, as defined by Title 22 CCR §66261.24.

7. 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 Monitoring and Reporting Program. 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 Order, and records of all data used to complete the application for this Order. Records shall be maintained throughout the life of the facility including the postclosure period.

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 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.
4. 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 leachate monitoring and of the 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);
 - b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and
 - c) 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);
 - b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and
 - c) Evidence of erosion.
5. 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 Monitoring and Reporting Program, 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.
6. 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. All historical monitoring data, including 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 [Title 27 CCR Section 20420(h)], 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

5 February 2009

REH: 10/30/08

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 I
 (Continued)**

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	Semiannually
<u>Inorganics (dissolved)</u>			
Aluminum	6010	mg/L	Semiannually
Antimony	6010	mg/L	Semiannually
Barium	6010	mg/L	Semiannually
Beryllium	6010	mg/l	Semiannually
Boron	6010	mg/L	Semiannually
Chromium	6010	mg/L	Semiannually
Cobalt	6010	mg/L	Semiannually
Copper	6010	mg/L	Semiannually
Manganese	6010	mg/L	Semiannually
Silver	6010	mg/L	Semiannually
Vanadium	6010	mg/L	Semiannually
Zinc	6010	mg/L	Semiannually
Arsenic	7062	mg/L	Semiannually
Cadmium	7131A	mg/L	Semiannually
Lead	7421	mg/L	Semiannually
Mercury	7470A	mg/L	Semiannually
Nickel	7521	mg/L	Semiannually
Selenium	7742	mg/L	Semiannually
Thallium	7841	mg/L	Semiannually
Cyanide	9010	mg/L	Semiannually
Sulfide	9030	mg/L	Semiannually

-
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.

TABLE II

WATER QUALITY PROTECTION STANDARD CONCENTRATION LIMITS

<u>Parameter</u>	<u>Units</u>	<u>Concentration Limit</u>
Total Dissolved Solids (TDS)	mg/L ¹	500
Electrical Conductivity	µmhos/cm ²	900
pH	pH units	6.5-8.5
Turbidity	NTU ³	0.3
Chloride	mg/L	250
Sulfate	mg/L	250
Nitrate (NO ₃)	mg/L	45
Nitrate as Nitrogen (NO ₃ -N)	mg/L	10
Nitrite (NO ₂ -N)	mg/L	1.0
Total Kjeldahl Nitrogen	mg/L	MDL ⁴
Alkalinity	mg/l	MDL
Bicarbonate	mg/L	MDL
Carbonate	mg/L	MDL
Calcium	mg/L	MDL
Magnesium	mg/L	MDL
Potassium	mg/L	MDL
Sodium	mg/L	MDL
Silica	mg/l	MDL
Phosphorous	mg/L	0.0001
Fluoride	mg/L	1
Aluminum	µg/L ⁵	200
Ammonia (NH ₃ -N)	µg/L	500
Antimony	µg/L	6
Barium	µg/L	1000
Beryllium	µg/l	4
Boron	µg/l	630
Cadmium	µg/L	0.07
Chromium	µg/L	50
Cobalt	µg/L	50
Copper	µg/L	170
Silver	µg/L	100
Vanadium	µg/L	63
Zinc	µg/L	2000
Iron	µg/L	300

**TABLE II
(Continued)**

WATER QUALITY PROTECTION STANDARD CONCENTRATION LIMITS

<u>Parameter</u>	<u>Units</u>	<u>Concentration Limit</u>
Manganese	µg/L	50
Arsenic	µg/L	2.1
Lead	µg/L	2
Mercury	µg/L	1.2
Nickel	µg/L	12
Selenium	µg/L	20
Thallium	µg/L	0.1
Cyanide	µg/L	140
Sulfide	µg/L	MDL

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1. Milligrams per liter.
 2. Micromhos per centimeter.
 3. Nephelometric turbidity units.
 4. Method Detection Limit
 5. Micrograms per liter

INFORMATION SHEET

ORDER R5-2009-0018
WASTE DISCHARGE REQUIREMENTS
LIBERTY COMPOSTING, INC.
FOR OPERATION
LIBERTY COMPOSTING FACILITY
KERN COUNTY

Liberty Composting, Inc. (Discharger), formerly known as San Joaquin Composting, Inc., owns and operates a 162-acre municipal biosolids composting facility located in northwestern Kern County about 9 miles northwest of Lost Hills on Holloway Road. 128 acres are used for composting operations and 34 acres are used for finished product staging and holding. The finished product qualifies as Exceptional Quality Biosolids and is mostly used as a soil amendment on 20,000 acres of farmland in Kings County owned and operated by McCarthy Family Farms, Inc. Liberty Composting, Inc. is also owned by McCarthy Family Farms, Inc.

On 6 September 2002, the California Regional Water Quality Control Board, Central Valley Region, (Central Valley Water Board) adopted Order R5-2002-0172, in which the facility was classified as Class II facility suitable for storage and treatment of nonhazardous solid wastes or designated waste as a waste pile in accordance with Title 27 CCR Section 20220(a). This order is being revised to allow the Discharger to compost liquid biosolids and liquid food processing byproducts, and to reflect a reorganization and name change from San Joaquin Composting, Inc., to Liberty Composting, Inc.

The Discharger composts municipal biosolids with bulking agents using the turned windrow method. The biosolids originate from wastewater treatment plants regulated by orders adopted by various regional water boards and are transported to the facility by truck. The bulking agents consist of yard residue (grass clippings, leaves, etc.) and food processing byproducts. The permitted maximum annual receipt of all combined composting feedstocks is 786,000 tons. Depending on the end use of the product, the portion of bulking agents used in the composting process will be up to 50%. The wastes 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) are collected in composite-lined impoundments and allowed to evaporate.

Biosolids used for composting are tested by the generator prior to shipment to the composting facility. Only biosolids that meet the requirements for non-hazardous biosolids specified in Title 22 CCR, Division 4, Chapter 11, Article 3, California Code of Regulations (CCR), and complies with 40 CFR 503 for exceptional quality compost, are accepted for composting.

The facility is on the floor of the Antelope Plain in the southern San Joaquin Valley. The designated beneficial uses of the intermittent streams (which flow east into the

INFORMATION SHEET - ORDER R5-2009-0018
WASTE DISCHARGE REQUIREMENTS
LIBERTY COMPOSTING, INC.
FOR OPERATION
LIBERTY COMPOSTING FACILITY
KERN COUNTY

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Tulare Lake Basin), as specified in the Tulare Lake Basin Plan (Basin Plan), 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.

First encountered groundwater occurs beneath the facility in an unconfined aquifer about 90 feet below grade (about 335 feet above mean sea level). The groundwater has an electrical conductivity that ranges from 4,200 to 8,900 micromhos per centimeter and a total dissolved solids concentration that ranges from 3,660 to 8,850 milligrams per liter. The facility is in the Kern County Basin Hydrologic Unit, Detailed Analysis Unit (DAU) 259. The designated beneficial uses of the groundwater include municipal and domestic water supply and agricultural supply. The quality of the first encountered groundwater is not suitable for these designated beneficial uses.

The groundwater is protected from degradation by site-specific characteristics including a substantial thickness of low-hydraulic-conductivity soils, low precipitation, depth to groundwater, and stormwater runoff collection and recycling. No impact to groundwater by inorganic or organic waste constituents has been indicated by the existing groundwater monitoring program.

The measured hydraulic conductivity of the native soils beneath the composting subunits ranges from 1.1×10^{-4} to 7.2×10^{-6} centimeters per second (cm/sec) at depths less than three feet and, at 20 feet below ground surface is 2×10^{-6} cm/sec.

The top one foot of the storage and treatment areas are compacted to 90 percent dry density to obtain a uniform hydraulic conductivity of 1×10^{-6} cm/sec, and graded to within one-tenth of one foot of grade to obtain a uniform working surface to inhibit vertical migration of wastes.

Based on the site specific characteristics, the threat to the beneficial uses of surface water and groundwater posed by the composting operation is not commensurate with the stringent monitoring, siting, construction, and design standards applicable to a Class II waste pile, under the Title 27 regulations, so long as it meets, and continues to meet, the requirements of this Order. Section 20200(a)(1) of Title 27 CCR allows the Central Valley Water Board to make a finding that "... a particular waste constituent or combination of constituents presents a lower risk of water quality degradation than indicated by classification according to this article." The Title 27 regulations do not provide for a waste pile of lower classification than Class II. However, based on a review of the Discharger's Report of Waste Discharge and on the lower risk to water quality cited in this Order, the Central Valley Water Board finds, pursuant to Title 27

INFORMATION SHEET - ORDER R5-2009-0018
WASTE DISCHARGE REQUIREMENTS
LIBERTY COMPOSTING, INC.
FOR OPERATION
LIBERTY COMPOSTING FACILITY
KERN COUNTY

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CCR Section 20200(a)(1), that the operation is not subject to the Class II waste pile liner requirements contained in the Title 27 regulations so long as the operation continues to meet the requirements of this Order.

The WDRs require total containment of wastes and do not permit degradation of surface water or groundwater. Further antidegradation analysis is therefore not needed. The permitted discharge is consistent with the antidegradation provisions of California State Water Resources Control Board Resolution 68-16.

The Kern County Planning Department, as lead agency, has determined that the mitigated negative declaration approved on 24 April 1995 is adequate and that the changes proposed by the Discharger are not subject to the California Environmental Quality Act (CEQA). Central Valley Water Board staff reviewed the mitigated negative declaration and found it to be adequate for the changes proposed by the Discharger for the following reasons:

- Although new compost feedstocks are being added, the nature of the waste should not change,
- The volume of waste is not changing, and
- The changes proposed for the waste treatment process do not change the threat to water quality.

REH: 12/9/2008