

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

BOARD ORDER NO. R6V-2010-0010
WDID NO. 6B360903006

WASTE DISCHARGE REQUIREMENTS

FOR

NURSERY PRODUCTS
HAWES COMPOSTING FACILITY

San Bernardino County

The California Regional Water Quality Control Board, Lahontan Region (Water Board) finds:

1. Definitions

The following terms, which are used within these Waste Discharge Requirements (Order), are defined by their respective code citations or policy references:

- a. **Biosolid:** "solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Biosolids includes, but is not limited to, treated domestic septage and scum or solids removed in primary, secondary, or advanced wastewater treatment processes. Biosolids does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during the preliminary treatment of domestic sewage in a treatment works" [California Code of Regulations (CCR), title 14, section 17852].
- b. **Green Material:** "any plant material that is separated at the point of generation contains no greater than 1.0 percent of physical contaminants by weight, and meets the requirements of section 17868.5. Green material includes, but is not limited to, yard trimmings, untreated wood wastes, natural fiber products, and construction and demolition wood waste. Green material does not include food material, biosolids, mixed solid waste, material processed from commingled collection, wood containing lead-based paint or wood preservative, mixed construction or mixed demolition debris" (CCR, title 14, section 17852).
- c. **Feedstock:** "any compostable organic material used in the production of compost or chipped and ground material including, but not limited to, agricultural material, green material, food material, biosolids, and mixed solid waste. Feedstocks shall not be considered as either additives or amendments" (CCR, title 14, section 17852).

For the purposes of this Order, feedstock will only include green material and biosolids.

- d. **Windrow Composting Process:** "the process in which compostable material is placed in elongated piles. The piles or 'windrows' are aerated and/or mechanically turned on a periodic basis" (CCR, title 14, section 17852).

2. Discharger

On October 19, 2009, Nursery Products, LLC, (Nursery Products) submitted an addendum to the July 16, 2009, Report of Waste Discharge (RWD), that collectively constitutes a complete RWD for the Nursery Products Hawes Composting Facility (Facility). Nursery Products owns the land underlying the proposed Facility. For the purpose of this Order, Nursery Products is referred to as the "Discharger."

3. Facility

The Discharger is proposing to construct and operate the Facility on 80 acres of land within a 160-acre parcel, 8 miles west of the town of Hinkley, San Bernardino County, and is shown on Attachment "A," which is made part of this Order. The purpose of the Facility is to recycle green material and treated biosolids into compost.

Processed green material will be placed in a partial windrow-shaped pile for initiation of composting with biosolids, which will be incorporated into the windrow-shaped piles within two hours after receipt. The windrow-shaped piles of biosolids and green material will be mechanically formed throughout each day. The windrow composting process includes aeration through mechanical processes on a periodic basis (turning the windrows). The objective of turning the windrows is to maintain the active compost under aerobic conditions at a temperature of 131 degrees Fahrenheit, or higher, for a pathogen reduction period of 15 days or longer. During the period when the compost is maintained at 131 degrees Fahrenheit or higher, the windrows will be turned a minimum of five times. Using the windrow method, the active composting stage generally can last up to nine weeks for biosolids composting, though it is expected to be completed much quicker in a hot, dry, arid environment. When the compost process is complete, the windrow-shaped piles will be processed through screening equipment to remove larger wood pieces, and the finished compost product will be placed in a storage area for sale.

The composting pad, which is classified as a Class II Waste Pile, will be sloped such that all stormwater within the Facility will runoff through the composting area and collect in two Surface Impoundments. The facility will be completely bermed such that stormwater from a 100-year, 24-hour storm event will not run on to the

Facility. Stormwater that falls on the facility, including that which is commingled with the constituents transported from the composting piles, will be discharged to and contained in two Class II Surface Impoundments. Water collected within the Surface Impoundments may be allowed to evaporate or will be pumped out and recycled within the composting process or used for dust control on the Facility.

For the purposes of this Order, the Facility consists of 1) office space, 2) parking area, 3) scale, 4) composting windrows and composting pad (Waste Pile), 5) two Surface Impoundments, 6) screening area, 7) equipment, 8) finished product storage area, 9) 2,000-gallon, double-walled, aboveground diesel fuel tank, 10) 30,000-gallon aboveground water storage tank, and 11) any related piping and appurtenances.

4. Order History

These are new Waste Discharge Requirements (WDRs) for the Facility.

5. Facility Location

The Facility is located west of Hinkley, approximately 10 miles west of Hinkley Road, 12.3 miles east of Kramer Junction, 1 mile south of State Route 58, and 1 mile west of Helendale Road. The Facility is on Assessor's Parcel Number 0492-021-24-0000 and is in the southeast quarter of Section 36, Township 10N, Range 5W, San Bernardino Baseline and Meridian and is shown on Attachment "B," which is made part of this Order.

6. Waste Classification

The materials to be stored at the Facility include green waste, biosolids, bulking agents, and in-process and finished compost. The maximum daily tonnage to be received on any single day will be no more than 2,000 wet tons of a combination of biosolids, green material, and bulking agents, and no more than 400,000 wet tons annually. Bulking agents or amendments, consisting of sand, gypsum, and sawdust, are not to exceed 200 tons per day. The maximum volume of compost to be produced on Facility is not to exceed 400,000 cubic yards annually.

All residual solids and liquids generated during composting operations, and precipitation that has come in contact with biosolids, bulking agents, amendments, green waste, or compost, are defined as "wastes," pursuant to California Water Code (CWC), section 13050, subdivision (d). The composting pad is regulated as a Waste Pile pursuant to CCR, section 20310, *et seq.* The material discharged to the Waste Pile is classified as a designated waste. Designated waste is defined in CWC, section 13173, subdivision (b), 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 as contained in the appropriate state water quality control plan." The predicted quality of material to be discharged to the Waste Pile is included in Attachment "C." These data were derived by taking representative samples of proposed compost, filtering the sample, and analyzing the filtrate to determine the concentration of chemical constituents in the filtered liquid, thus providing empirical analytical data for the leachate using the Waste Extraction Test per CCR, title 22, Division 4.5, Chapter 11, Article 5, Appendix II. The waste discharged to the Surface Impoundments includes leachate generated during composting operations and stormwater commingled with constituents mobilized from material stored on the surface of the Facility. The wastewater is classified as a liquid designated waste. The predicted quality of wastewater discharged to the Surface Impoundments is included in Attachment "C." These data were derived in the same manner as described for the characterization of the material to be discharged to the Waste Pile.

7. Waste Management Unit Classification

The Waste Pile and Surface Impoundments are classified as Class II waste management units, as defined in CCR, title 27, section 20250.

8. Description of the Waste Pile

The Waste Pile will be an area of prepared subgrade of no less than 12 inches of engineered native material. The engineered pad will be moisture conditioned and compacted to a minimum relative compaction of 90 percent per American Society of Testing and Materials (ASTM) Test Method D1557. The engineered pad will be sloped to prevent ponding such that all stormwater will flow to the Surface Impoundments.

9. Description of the Surface Impoundments

Stormwater which falls onto the Facility and commingles with constituents from the materials stored on the ground surface of the Facility will be discharged into two lined Class II Surface Impoundments equipped with leak detection monitoring sumps (LDMS). The Surface Impoundments must contain the maximum volume of water anticipated to run-off from the Facility for a 100-year, 24-hour event, in addition to the volume of rain which falls onto the Surface Impoundment areas in a 1,000-year, 24-hour storm event, while maintaining two feet of freeboard.

Residual solids, if present, are to be removed from the Surface Impoundments as part of routine maintenance. Solids removed may be used as a bulking agent to the feedstock materials used during the composting operations at the Facility or may be disposed at a waste management facility appropriate for solids disposal, which must be based upon the analytical characterization results for the solids.

Leachate from the Facility may consist of liquid constituents discharged from the feedstock materials, in-process and finished compost stored on the composting pad of the Facility during the composting process. Feedstock materials include green waste, biosolids, and bulking agents or amendments.

Water collected in the Surface Impoundments may be allowed to evaporate, or may be pumped out and reused within the composting process or for dust control at the Facility.

The liner system of the Surface Impoundments is proposed to be constructed in ascending order as follows:

- a. A 6-inch recompacted native subgrade below the bottom liner, which is moisture conditioned and compacted to 90 percent of the maximum dry density per American Society for Testing and Materials (ASTM) Standard D1557.
- b. A leak detection monitoring sump (LDMS) under the lower-most part of each Surface Impoundment that consists of a composite liner of geosynthetic clay and 60-mil high density polyethylene (HDPE) or 45-mil reinforced polypropylene flexible membrane with a non-woven filter fabric and granular drainage material.
- c. A geosynthetic clay and 60-mil HDPE or 45-mil reinforced polypropylene flexible membrane composite liner with a filter fabric and ultraviolet protection.

The geomembranes will be installed, tested, and inspected in accordance with an accepted Construction Quality Assurance Plan.

Wastewater generated primarily as a result of stormwater runoff through the composting materials must be disposed to Class II Surface Impoundments, designed to completely contain the waste. The Surface Impoundments are to be lined, as noted above, and must have no less than 1×10^{-6} cm/sec permeability. The Surface Impoundments will each be equipped with a LDMS directly underneath the deepest portion of each Surface Impoundment. The LDMS is designed to monitor the liner of the Surface Impoundment, and to provide the earliest possible detection of a leak in the liner of the Surface Impoundments. The Surface Impoundments will be equipped with an unsaturated zone monitoring system beneath the LDMS. The Surface Impoundments, as specified in CCR, title 27, section 20320, Table 4.1, are to withstand seismic shaking from a maximum credible earthquake, as defined in CCR, title 27, section 20164. The Discharger must demonstrate in the design plans that the Facility will be able to withstand seismic shaking from a maximum credible earthquake. A map of the project Facility, including the Surface Impoundments, is shown in Attachment "B."

10. Engineered Alternative to Prescriptive Standard for the Waste Pile and Surface Impoundments

California Code of Regulations (CCR), title 27, includes prescriptive standards for waste management unit construction, and allows for engineered alternatives to such standards. CCR, title 27, section 20080, subdivision (b), requires that alternatives shall only be approved where the Discharger demonstrates that: (1) the construction of prescriptive standard is not feasible because it is unreasonably and unnecessarily burdensome and will cost substantially more than alternatives, which meet the criteria, or is impractical and will not promote attainment of applicable performance standards; and (2) there is a specific engineered alternative that is consistent with the performance goal of the prescriptive standard and affords equivalent protection against water quality impairment.

The Discharger has proposed engineered alternatives to the CCR, title 27 prescriptive standards for the construction and monitoring of the Class II Waste Pile and Surface Impoundments.

The prescriptive standard for construction of a Waste Pile requires either a clay liner or a synthetic liner and a leachate collection and removal system. The Discharger proposes an engineered alternative for the Waste Pile which includes an alternative for the construction and monitoring of the engineered pad. Construction of a prescriptive clay liner is not feasible at the Facility as under expected conditions and operations of the Facility, with repeated wetting and drying cycles, a prescriptive compacted clay liner would desiccate and crack. The cracking would compromise a clay liner and not achieve the required performance standard. An alternate prescriptive synthetic liner is also considered infeasible due to damages expected to be received from ultraviolet rays and from equipment to be used during composting processes, and would, thus, not achieve the performance standard for water quality. Additionally, the cost of the prescriptive synthetic liner is unnecessarily burdensome, based on estimates of synthetic liner costs provided by the Discharger.

The engineered alternative for the proposed construction of the Waste Pile pad is a pad composed of compacted native soil. The Discharger has proposed to slope the pad such that all stormwater and leachate will runoff into Class II Surface Impoundments. As an alternative to unsaturated zone monitoring below the Waste Pile pad, the Discharger has proposed to collect soil samples through the pad itself to native soils beneath the pad to show that the pad is not affected by the Facility processes and provides proper containment. Annual sampling of the pad and soils beneath the pad negates the need for a leachate collection and removal system to be installed and monitored under the Waste Pile.

The prescriptive standard for a Surface Impoundment is a single clay liner or a double-lined system with a leachate collection and removal system, and a

hydraulic conductivity of 1×10^{-6} cm/sec. The Discharger proposes an engineered alternative for construction of the Surface Impoundments. Construction of a prescriptive clay liner is not feasible at this Facility as under expected conditions and operations of the Facility with repeated wetting and drying cycles, a prescriptive compacted clay liner would desiccate and crack. The cracking would compromise the clay liner and not achieve the performance standard. The engineered alternative for the Surface Impoundments is a single composite liner. The liner includes a layer of powdered bentonite clay, which is expected to mitigate downward migration of water from the Surface Impoundment. This bentonite clay has a hydraulic conductivity of no greater than 1×10^{-8} cm/sec, which provides a hydraulic conductivity that is two orders of magnitude lower than prescriptive liner requirements and, thus, is more protective. Furthermore, the Surface Impoundments will be equipped with leak detection monitoring sumps (LDMS), which are lined sumps installed below the lowest portions of the Surface Impoundments. These allow for detection of the vertical migration of liquids and removal of a water sample for testing.

Water Board staff has evaluated these proposed alternatives and has determined that these alternatives meet the CCR, title 27 requirements.

11. Acceptance Criteria for Biosolids

Biosolids that will be processed at the Facility originate from wastewater treatment plants regulated by orders adopted by Regional Water Boards both outside and within the Lahontan Region. The biosolids must be tested by the generator prior to transport to the facility. Metals constituents must be below the maximum concentrations as specified in CCR, title 14, section 17868.2. Biosolids that meet the requirements for hazardous waste specified in CCR, title 22, division 4.5, chapter 11, article 3, will not be accepted.

12. Dust Control

Water from an on-site well or from the Surface Impoundments will be used for dust suppression, as necessary, to prevent the release of airborne particulates from the Facility.

13. Authorized Disposal Site

The authorized disposal locations for wastewater at the Facility are the Surface Impoundments.

14. Technical and Monitoring Reports

The Discharger must submit technical and monitoring reports in compliance with this Order as described in Monitoring and Reporting Program (MRP) No. R6V-2010-0010, which is attached to and made part of this Order.

15. Water Quality Protection Standard

The Water Quality Protection Standard (WQPS) consists of monitoring parameters, constituents of concern (COCs), concentration limits, Monitoring Points, and the Point of Compliance. The WQPS applies over the active life of the Facility, closure and post-closure maintenance period, and the compliance period. The constituents of concern, Monitoring Points, and Point of Compliance are described in MRP No. R6V-2010-0010. This Order includes a time schedule for the Discharger to propose concentration limits for all constituents of concern.

16. Statistical Methods

Statistical analyses of groundwater monitoring data are necessary for the earliest possible detection of measurably significant evidence of a release of waste from the Facility. CCR, title 27, section 20415, subdivision (e)(7), requires statistical data analyses to determine when there is "measurably significant" evidence of a release from the Unit. MRP No. R6V-2010-0010 includes methods for statistical analyses. The monitoring parameters listed in MRP No. R6V-2010-0010 are believed to be the best indicators of a release from the Facility.

17. Detection Monitoring Program

Pursuant to CCR, title 27, sections 20385 and 20420, the Discharger has proposed a detection monitoring program (DMP) for the Facility. The DMP for the Facility consists of monitoring: (1) the composting pad (as an accepted engineered alternative to monitoring the unsaturated zone at the Waste Pile), (2) the LDMS (as part of the system to monitor leaks from the Surface Impoundments), (3) unsaturated zone monitoring beneath the Surface Impoundments (to be proposed by the Discharger), and (4) groundwater monitoring wells for the presence of constituents of concern from the Facility. The program to monitor the Waste Pile pad, LDMS, and water-bearing media for evidence of a release, as well as the monitoring frequency, is specified in MRP No. R6V-2010-0010. This Order requires the Discharger to submit a program to monitor the unsaturated zone of the Surface Impoundments **at least 60 days** prior to construction (see section V.C.2 of this Order).

18. Evaluation Monitoring Program

An evaluation monitoring program (EMP) may be required, pursuant to CCR, title 27, sections 20385 and 20425, in order to evaluate evidence of a release if detection monitoring and verification procedures indicate evidence of a release. The Discharger must monitor groundwater and the unsaturated zone to evaluate changes in water quality and/or physical parameters that indicate a release from the Facility. If the EMP confirms measurably significant evidence of a release, then the Discharger must submit an engineering feasibility study for a corrective

action program within 180 days of determination pursuant to CCR, title 27, section 20425, and MRP No. R6V-2010-0010.

19. Corrective Action Program

A corrective action program (CAP) to remediate released wastes from the Facility may be required pursuant to CCR, title 27, sections 20385 and 20430, if results of an EMP prove the presence of a measurably significant release from the Facility.

20. Waste Pile and Surface Impoundments Closure Specifications

The Discharger plans to clean-close the Waste Pile, pursuant to CCR, title 27, section 21410, and the Surface Impoundments, pursuant to CCR, title 27, section 21400, at closure, at which time any residual water remaining in the Surface Impoundments will be allowed to evaporate and all residual wastes, including liquids, sludges, precipitates, settled solids, and liner materials will be completely removed, transported, and disposed to a facility permitted to accept such wastes.

The Discharger has submitted a preliminary closure plan and financial estimates to clean-close the Facility. This Order requires that a Closure Plan and adequate financial assurance mechanisms for closure be submitted by the Discharger **at least 7 days** prior to operation of the Facility.

21. Site Geology

The Facility lies in the central portion of the Mojave Desert geomorphic province. The area is characterized by broad expanses of desert with localized mountains and dry lakebeds. The province is bounded by the San Bernardino Mountains and the Pinto fault to the south, the San Andreas fault to the west, the Garlock fault to the north, and the Basin and Range Province to the east. The Facility is between two Holocene fault zones, the Helendale fault to the west, and the Lenwood-Lockhart fault zone to the east; both faults are right lateral strike slip faults with movement at approximately 0.8 mm/yr.

Twelve shallow soil borings and one deep soil boring (Boring 13) performed at the Facility, as reported in the RWD, describe the proposed Facility as being directly underlain by medium-dense to dense-silty sand with gravel, poorly-graded sand with silt and gravel, and clayey sand. In the deep boring, at depths between approximately 168 feet below ground surface (bgs) and 362 feet bgs, very dense soils were encountered. A permeability analysis conducted on a soil sample collected at approximately 235 feet bgs resulted in a permeability of 3.7×10^{-9} centimeters per second (cm/sec).

22. Site Hydrogeology and Hydrology

The Facility is located approximately 8.5 miles northwest of the Mojave River and 7.5 miles south of Harper Dry Lake. The Facility is not within a 100-year floodplain, but is within a 500-year floodplain.

The Facility is located in the Harper Valley Groundwater Basin. The Groundwater Basin contains three interconnected aquifers, the Centro floodplain aquifer, the Centro regional aquifer, and the Harper Lake regional aquifer. Groundwater flow in the regional aquifers is toward the north to northeast. On March 19, 2009, depth to groundwater was measured in a deep on-site boring and was determined to be approximately 365 feet bgs (Boring 13); the following day, groundwater level stabilized at 305.1 feet bgs.

23. Groundwater Quality

A groundwater sample was collected by the Discharger from Boring 13 on March 19, 2009. Selected results are presented in Table 1, Groundwater Quality Results, below. Additional results are presented in Attachment "D."

Table 1. Groundwater Quality Results

Constituent	Units	Boring 13 Groundwater Sample Concentration	MCL
Aluminum	mg/L	0.0755	0.2
Antimony	mg/L	ND < 0.00100	0.006
Arsenic	mg/L	0.00158	0.01
Copper	mg/L	0.00387	0.2
Iron	mg/L	ND < 0.100	0.3
Manganese	mg/L	0.3	0.05
Methylene Blue Active Substances	mg/L	0.14	0.5
Nickel	mg/L	0.00136	0.1
pH	pH units	8.1	6.5-8.5
Specific Conductance	µmhos/cm	1200	900*
Sulfate	mg/L	240	250
Total Dissolved Solids (TDS)	mg/L	752	500*

* Secondary MCL
 MCL = Maximum contaminant level
 µmhos/cm = Micromhos per centimeter
 mg/L = Milligrams per liter
 ND = Not detected

24. Receiving Waters

The receiving waters are the groundwaters of the Harper Valley Groundwater Basin (Department of Water Resources, Groundwater Basin Number 6-47, Basin Plan, Plate 2B, Groundwater Basins, Region 6, South Lahontan).

25. Lahontan Basin Plan

The Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (Basin Plan), which became effective on March 31, 1995. This Order implements the Basin Plan.

26. Beneficial Groundwater Uses

The present and potential beneficial uses of the groundwaters of Harper Valley Groundwater Basin (DWR Basin No. 6-47), as set forth and defined in the Basin Plan, are:

- a. (MUN) - Municipal and Domestic Supply,
- b. (AGR) - Agricultural Supply,
- c. (IND) - Industrial Service Supply, and
- d. (FRSH) - Freshwater Replenishment.

27. Protection from Storm Events

The Discharger must provide information to demonstrate that the Facility must contain the volume of water from a 1,000-year, 24-hour storm event over the Facility, pursuant to CCR, title 27, section 20320, Table 4.1.

The Discharger has proposed to manage stormwater runoff by diverting all non-Facility stormwater around the Facility and preventing all on-site stormwater from leaving the Facility. The berm must be constructed, per CCR, title 27, section 20250, subdivision c, to divert non-Facility stormwater from a 100-year, 24-hour event. The composting area will be graded such that all Facility stormwater will flow to the Surface Impoundments.

28. Storm Contingency Plan

High intensity short duration precipitation (HISDP) events may occur in the Mojave Desert region during the rainy season and occasionally during summers. In order to ensure adequate protection against overtopping of the Surface Impoundments at this Facility, the Discharger must submit a Storm Contingency Plan that provides a narrative description of the procedures that Facility personnel will follow if maintenance of at least 2 feet of freeboard may be violated with the addition of expected stormwater in each Surface Impoundment. It is anticipated that during the rainy season, saturated conditions may occur that prevent the application of Surface Impoundment water on roads or the windrows for dust control. The plan must specify how the water will be removed and where the water may be taken. Monitoring and reporting prior to, during, and after such removal activities is also required.

29. Site Topography

The topography of the site is gently sloping downward to the north, with elevations ranging from 2,355 feet above mean sea level (msl) to 2,310 feet above msl. Site topography is shown on the Location Map in Attachment "B."

30. Climate

The area typically has hot summers and mild winters. The annual average precipitation in the vicinity of the Facility is approximately 4.5 inches. The net evaporation rate for the area is approximately 68 inches annually (per California Irrigation Management Information Systems).

31. Land Uses

The majority of land surrounding the Facility is vacant and zoned for resource conservation. The nearest residence is located approximately 1.5 miles east of the Facility, and the next closest residence is approximately 2.5 miles east of the Facility; thereafter, the next closest residence is approximately 8 miles away.

32. Action Leakage Rate

The Discharger has not proposed an action leakage rate (per U.S. EPA Action Leakage Rates for Leak Detection Systems, Supplemental Background Document for the Final Double Liners and Leak Detection Systems Rule for Hazardous Waste Landfills, Waste Piles, and Surface Impoundments, 1992), because the waste is not a Hazardous Waste. Furthermore, it is not anticipated, based on the Facility characteristics, that there will be a measurable build-up of head in the LDMS, due to the fact that the Surface Impoundments will only contain stormwater and/or leachate. Should leakage of the liner of the Surface Impoundments be detected, the Discharger has proposed to repair the liner of the Surface Impoundments.

This Order requires the Discharger to immediately take steps to locate and repair leak(s) in the liner system and notify the Water Board if there is measurable volume of leachate in the LDMS and to cease discharge and submit a time schedule for repair of the liner.

33. Known or Reasonably Foreseeable Release from the Waste Pile or Surface Impoundments

The Discharger has not submitted a corrective action estimate (CAE) to address a known or reasonably foreseeable release (KRFR), including a workup of the total likely maximum cost of remediation for a known or reasonably foreseeable release, pursuant to CCR, title 27, section 20380, subdivision (b). The analysis must also include a proposed corrective action financial assurance mechanism (to cover the estimated corrective action cost) meeting the requirements of CCR, title 27,

sections 22220 through 22222 and 22225 *et seq.* This Order requires the Discharger to submit a CAE for a KRFR.

If there is measurably significant evidence of a release, the Discharger must submit an engineering feasibility study for corrective action pursuant to CCR, title 27, section 20420, subdivision (k)(6) and must conduct a COC scan meeting the requirements of CCR, title 27, section 20420, subdivision (k)(1). The Discharger must also submit an amended Report of Waste Discharge pursuant to CCR, title 27, section 20420, subdivision (k)(5), that proposes suitable revisions to the MRP to establish an EMP meeting CCR, title 27, section 20425. If necessary, the amended Report of Waste Discharger must include the justification for any extension beyond the 90 days allowed prior to making the submittals required under CCR, title 27, section 20425, subdivisions (b), (c), and (d).

34. Financial Assurance

At least 7 days prior to operation of the Facility, the Discharger is required to provide three separate sureties to cover the costs of closure and corrective action (for a reasonably foreseeable release) in accordance with CCR, title 27, sections 22207 and 22222, respectively.

This Order requires the Discharger to obtain and maintain financial instruments and to report yearly to the water board the amount of money available in the financial instruments. Annually, the Discharger must report that the amount of financial assurance is adequate, or increase the amount of financial assurance as required under CCR, title 27, sections 22207 and 22222.

Cost estimates have only been provided for closure. Cost estimates must be presented for corrective action as well.

35. Other Considerations and Requirements for Discharge

Pursuant to California Water Code, section 13241, the requirements of this Order take into consideration:

- a. Past, present, and probable future beneficial uses of water.

This Order identifies existing groundwater quality and past, present, and probable future beneficial uses of water, as described in finding Nos. 22, and 25, respectively. The proposed discharge will not adversely affect present or probable future beneficial uses of water including municipal and domestic supply, agricultural supply, industrial service supply, and freshwater replenishment, because the discharge is only authorized within a lined Facility and detection monitoring is required to ensure discharges do not reach groundwater.

- b. Environmental characteristics of the hydrographic unit under consideration including the quality of water available thereto.

Finding No. 22 describes the environmental characteristics and quality of water available.

- c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area.

The requirements of this Order will not affect groundwater quality. The Water Board will use its existing authority and these waste discharge requirements to ensure protection of water quality from these discharges.

- d. Economic considerations.

Water Quality Objectives established in the Basin Plan for the Harper Valley Groundwater Basin do not subject the Discharger to economic disadvantage as compared to other similar discharges in the Region. This Order will require the Discharger to submit proposals compliant with the requirements of CCR, title 27, and is reasonable.

- e. The need for developing housing within the region.

The Discharger is not responsible for developing housing within the region.

- f. The need to develop and use recycled water.

The Discharger does not propose the use of recycled water at this Facility as there is no locally available source. However, water collected in the Surface Impoundments may be reused within the active composting operations and as dust control at the Facility.

36. California Environmental Quality Act

This project is subject to the provisions of the California Environmental Quality Act (CEQA, Public Resources Code Section 21000 et seq.) in accordance with Public Resources Code, section 21065. The County of San Bernardino is the CEQA Lead Agency for this project under the CEQA Guidelines.

The Environmental Impact Report (EIR) was adopted by the San Bernardino County Board of Supervisors on February 27, 2007, following public review and comment. At that time, a Conditional Use Permit was also approved.

On March 29, 2007, the Center for Biological Diversity and HelpHinkley.org served and filed a petition for a writ of mandate challenging the adequacy of the

County of San Bernardino's EIR for Nursery Products' proposed composting facility. Judge Vander Feer issued an Order on April 11, 2008, that enjoined the County and Nursery Products from "proceeding with grading, construction, or any other physical implementation of the Project that could result in an adverse change or alteration to the physical environment, unless and until such time as the County has certified and adopted an EIR that complies with CEQA." The Writ ordered further review in two areas: (1) identification and analysis of water supply and (2) further evidence in the administrative record regarding the infeasibility of the enclosed facility alternative. In all other respects the CEQA analysis was sustained. Water quality impacts were analyzed in the EIR, specifically challenged but fully sustained by the Court.

In this case, because the EIR is being litigated, the nature of the Lahontan Water Board's approval authority as a responsible agency depends on whether an injunction or stay has been granted. Because an injunction has been granted pending a final determination that the EIR complies with CEQA, the Lahontan Water Board, as a responsible agency, is issuing a conditional approval. A conditional approval constitutes permission to proceed with the project only when there is a final determination that the EIR complies with CEQA, per Public Resources Code section 21167.3; California Code of Regulations, title 14, section 15233, subdivision (a).

A notice of preparation of a Supplemental EIR was issued on March 9, 2009, wherein San Bernardino County proposed to address the two aforementioned issues and to update the analysis of greenhouse gas emissions. A supplemental draft EIR was issued for review by the County of San Bernardino and circulated for comment by the State Clearinghouse in July 2009 (State Clearinghouse Number 2006051021). The Final Supplemental EIR was accepted by the San Bernardino County Planning Commission on December 3, 2009.

The Water Board, acting as a CEQA Responsible Agency in compliance with CCR, title 14, section 15096, subdivision (g)(2), evaluated the potentially significant impacts to water quality from the discharge identified in the EIR. The Water Board has determined that additional mitigation measures are necessary to prevent potentially significant water quality impacts as a result of wastewater discharges to the Surface Impoundments. Mitigation measures include designing and constructing lined facilities in accordance with CCR, title 27, for a Class II Waste Pile and Surface Impoundments to contain the discharges from the Facility. This Order also requires a groundwater and unsaturated zone monitoring program. Mitigation measures are also required to prevent a condition of nuisance, such as implementation of an Odor Impact Minimization Plan and limits on the duration water can remain in the Surface Impoundments. The Water Board finds these mitigation measures, as specified in this Order, are adequate to reduce water quality impacts to less than significant.

37. Notification of Interested Parties

The Water Board has notified the Discharger and all known interested agencies and persons of its intent to adopt WDRs for the project.

38. Consideration of Interested Parties

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

IT IS HEREBY ORDERED that the Dischargers shall comply with the following:

I. RECEIVING WATER LIMITATIONS

The Discharger shall not cause the existing water quality to be degraded. Under no circumstances shall the Discharger cause the presence of the following substances or conditions in groundwaters of the Harper Valley Groundwater Basin.

- A. Bacteria – Groundwaters designated as MUN, the medium concentration of coliform organisms, over any seven-day period, must be less than 1.1 Most Probable Number per 100 milliliters (MPN/100 mL) in groundwaters.
- B. Chemical Constituents – Groundwaters designated as MUN must not contain concentrations of chemical constituents in excess of the Maximum Contaminant Levels (MCL) or Secondary MCL (SMCL) based upon drinking water standards specified in the following provisions of CCR, title 22: Table 64431-A of section 64431 (Inorganic Chemicals), Table 64444-A of section 64444 (Organic Chemicals), Table 64449-A of section 64449 (SMCLs – Consumer Acceptance Contaminant Levels), and Table 64449-B of section 64449 (SMCLs – Consumer Acceptance Contaminant Level Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

Groundwaters designated as AGR must not contain concentrations of chemical constituents that adversely affect the water for beneficial uses (i.e., agricultural purposes).

Groundwaters must not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

- C. Radioactivity – Groundwater designated MUN must not contain concentrations of radionuclides in excess of limits specified in CCR, title 22, section 64442, Table 64442, and section 64443, Table 64443, including future changes as the changes take effect.

- D. Taste and Odors – Groundwaters must not contain taste or odor-producing substances in concentrations that cause a nuisance or that adversely affect beneficial uses. For groundwaters designated as MUN, at a minimum, concentrations must not exceed adopted SMCLs as specified in CCR, Title 22, Table 64449-A of section 64449 (SMCLs – Consumer Acceptance Contaminant Level) and Table 64449-B of section 64449 (SMCLs – Consumer Acceptance Contaminant Levels Ranges) including future changes as the changes take effect.
- E. Color – Groundwaters must not contain color-producing substances from tracers in concentrations that cause a nuisance or that adversely affect beneficial uses.
- F. Toxic Substances – Any presence of toxic substances in concentrations that individually, collectively, or cumulatively cause a detrimental physiological response in humans, plants, animals, or aquatic life is prohibited.

II. REQUIREMENTS AND PROHIBITIONS

A. General

1. The discharge must not cause or threaten to cause a condition of pollution or nuisance as defined in California Water Code, section 13050.
2. There must be no discharge, bypass, or diversion of wastewater from the collection, conveyance, or disposal facilities to adjacent land areas or surface waters.
3. Surface drainage within the Facility must be contained on-site. No water contained within the Surface Impoundments is to be discharged outside the Facility, unless it is in accordance with the accepted Storm Contingency Plan to a location approved by the Water Board Executive Officer. The Discharger must maintain a Storm Water Pollution Prevention Plan (SWPPP) and Monitoring Program and Reporting Requirements in accordance with State Water Resources Control Board Order No. 97-03-DWQ, and future promulgated general stormwater permits.
4. All facilities used for the collection, conveyance, or disposal of waste must be adequately protected against overflow, washout, inundation, structural damage, or a significant reduction in efficiency resulting from a storm or flood having a recurrence

interval of once in 1,000 years (CCR, title 27, section 20320, Table 4.1).

5. The discharge of hazardous waste to the Waste Pile or Surface Impoundments or generation of hazardous waste due to evaporation in the Surface Impoundments is prohibited.
6. The discharge of solid wastes, leachate, wastewater, or any other deleterious materials to the groundwaters of the Harper Valley Groundwater Basin is prohibited.
7. The discharge of waste, except to the authorized Waste Pile or Surface Impoundments, is prohibited.
8. The discharge of waste, as defined in CWC, section 13050, subdivision (d), that causes a violation of any narrative WQO contained in the Basin Plan, including the Nondegradation Objective, is prohibited.
9. Where any numeric or narrative WQO contained in the Basin Plan is already being violated, the discharge of waste that causes further degradation or pollution is prohibited.
10. The discharge must not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the Waste Pile or Surface Impoundments if such waste constituents could migrate to waters of the State – in either liquid or gaseous phase – and cause a condition of nuisance, degradation, contamination, or pollution.
11. The discharge of waste in a manner that does not maintain a five-foot separation between the waste and the seasonal high groundwater table is prohibited.
12. The integrity of the proposed Waste Pile and Surface Impoundments must be maintained throughout the life of the Facility and must not be diminished as a result of any maintenance operation.
13. The Discharger must maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with these waste discharge requirements.
14. At closure, the Facility must be closed in accordance with a Final Closure Plan approved by the Water Board.

15. The Discharger must at all times maintain adequate and viable financial assurances acceptable to the Water Board Executive Officer for costs associated with closure ,and corrective action for all known or reasonably foreseeable releases.
16. Best Management Practices, good housekeeping measures, and other measures implemented in accordance with the approved Odor Impact Minimization Plan, including but not limited to treating feedstocks with an odor-neutralizing agent, will be implemented to minimize the release of objectionable odors. If meteorological conditions cause objectionable off-site odors, the Discharger must immediately take operational steps to mitigate the cause of such odors.
17. Wind speed and direction will be checked and logged daily and just prior to turning the windrows or performing other activities that could create nuisance dust. Activities at the Facility that could create nuisance dust must not be performed if wind speeds are in excess of 30 miles per hour:
18. The Facility must be watered, as necessary, to minimize production of dust.
19. The moisture content of windrows will be monitored daily using a standard field test for moisture, as herein described, or alternate test as approved by Water Board staff. Moisture at each windrow will be determined by taking a representative sample of the windrow materials and forming the materials into a ball by hand; the material must hold together without crumbling. If material crumbles, water must be added to the windrow such that the material can be formed into a ball and maintain this shape.

B. Surface Impoundments

1. The Surface Impoundment freeboard, the vertical distance between the liquid surface elevation and the lowest part of the pond dike or the invert of an overflow structure, must be a minimum of two feet at all times, as specified in CCR, title 27, section 20375.
2. All lined facilities must be effectively sealed to prevent the exfiltration of liquids. For this project, "effectively sealed" facilities are Class II waste management units that are designed and constructed to meet the requirements of CCR, title 27.

C. Leak Detection Monitoring Sumps

1. If a measurable quantity of leachate is detected in a LDMS of the Surface Impoundments, the Discharger must immediately take steps to locate and repair leak(s) in the liner system and comply with the notice requirements presented in MRP No. R6V-2010-0010, Section IV. G., "Unscheduled Reports to be Filed With the Water Board." The notification shall include a timetable for remedial action to repair the liner of the Surface Impoundment(s).
2. The LDMS must be operated to function without clogging throughout the life of the project.
3. Any leachate collected in the LDMS must either be returned to the Surface Impoundments or disposed at a Class II Waste Management Unit.

D. Detection Monitoring Program

The Discharger must maintain a detection monitoring program as required in CCR, title 27, section 20420.

E. Evaluation Monitoring Program

The Discharger must perform an evaluation monitoring program when there is a measurably significant evidence of release as required in CCR, title 27, section 20385, subdivision (a)(2) or (3). The EMP will be used to delineate the nature and extent of the release, as well as to develop, propose, and support corrective action measures to be implemented in a CAP.

F. Corrective Action Program

The Discharger must institute a corrective action program as required in CCR, title 27, section 20430, following completion of the EMP, in response to measurably significant evidence of a release.

III. WATER QUALITY MONITORING AND RESPONSE PROGRAMS

A. Water Quality Protection Standard

1. The Discharger must submit a report of waste discharge to the Water Board at least 140 days before initiating discharge to the Waste Pile or Surface Impoundments any new constituents of concern. Before a new discharge commences, the Discharger must estimate the concentration for such constituents within the

wastewater stream and submit written statistical method(s) in order to detect a release of such constituents.

2. At any given time, the concentration limit for each monitoring parameter and constituent of concern must be equal to the background data set of that constituent. The background data set for each monitoring point/constituent pair should be comprised of at least eight data points, collected quarterly.
3. If the Discharger or Water Board Executive Officer determines that concentration limits were or are exceeded, the Discharger may immediately institute verification procedures upon such determination as specified below or submit an amended RWD within 90 days of such determination in order to establish an evaluation monitoring program. In the event of a release, unless the amended RWD (proposing an EMP) proposes and substantiates a longer period, the Discharger will only have 90 days, once the Water Board authorizes the initiation of the EMP, to complete the delineation, develop a suite of proposed corrective action measures, and submit a proposed corrective action program (CAP) for adoption by the Water Board.
4. Monitoring Wells and/or unsaturated zone samples must be used to obtain background data and to detect a release from the Facility.

B. Statistical Methods

1. The Discharger must use approved statistical data analysis methods to evaluate Point of Compliance groundwater data in order to determine measurably significant evidence of a release from the Waste Pile or Surface Impoundments, as required by CCR, title 27, section 20415, subdivision (e). Approved methods may include intrawell statistical analyses.
2. The Discharger must determine, within 45 days after completion of sampling, whether there is measurably significant evidence of a release from the Waste Pile or Surface Impoundments at each Monitoring Point. The analysis must consider all monitoring parameters and constituents of concern. The Executive Officer may also make an independent finding that there is measurably significant evidence of a release or physical evidence of a release.
3. If there is measurably significant evidence of a release, the Discharger must immediately notify the Water Board by certified mail (see notification procedures contained in MRP No. R6V-2010-0010. Subsequently, the Discharger may immediately initiate

verification procedures as specified in Section III.D., below, whenever there is a determination by the Discharger or Executive Officer that there is measurably significant evidence of a release.

C. Physical Evidence of a Release

The Discharger must determine whether there is significant physical evidence of a release from the Waste Pile or Surface Impoundments. Significant physical evidence may include unexplained volumetric changes in the Waste Pile or Surface Impoundments, unexplained stress in biological communities, unexplained changes in soil characteristics, unexplained change in soil moisture content, visible signs of leachate migration, unexplained water table mounding beneath or adjacent to the Facility, and/or any other change in the environment that could reasonably be expected to be the result of a release from the Facility (see Section IV.G., "Unscheduled Reports to be Filed With the Water Board," of MRP No. R6V-2010-0010).

D. Verification Procedures

1. If the Discharger or Executive Officer verify evidence of a release, the Discharger is required to submit a technical report to the Water Board, pursuant to California Water Code, section 13267, subdivision (b), within 90 days of such a determination that there is, or was, a release. The report must propose an evaluation monitoring program (see subsection, II.E., entitled, "Evaluation Monitoring Program"), or, make a demonstration to the Water Board that there is a source other than the Facility that caused evidence of a release (see notification procedures contained in MRP No. R6V-2010-0010).
2. The verification procedure must only be performed for the constituent(s) that has shown a measurably significant evidence of a release and must be performed for those Monitoring Points at which a release is indicated.
3. The Discharger must either conduct a composite retest using data from the initial sampling event with all data obtained from the resampling event or must conduct a discrete retest in which only data obtained from the resampling event must be analyzed to verify evidence of a release.
4. The Discharger must report to the Water Board, by certified mail, the results of the verification procedure, as well as all concentration data collected for use in the retest, within seven days of the last laboratory analysis.

E. Technical Report without Verification Procedures

If the Discharger does not use verification procedures to evaluate evidence of a release, and there is confirmation that there is measurably significant evidence of a release, then the Discharger is required to submit, within 90 days of such confirmation, an amended RWD in order to establish an Evaluation Monitoring Program or demonstrate to the Water Board that there is a source other than the Waste Pile or Surface Impoundment that caused evidence of a release (see Section IV.G., "Unscheduled Reports to be Filed With the Water Board," of MRP No. R6V-2010-0010.

F. Monitoring and Reporting

1. Pursuant to California Water Code, section 13267, subdivision (b), the Discharger must comply with the MRP as established in the attached MRP No. R6V-2010-0010, and as specified by the Executive Officer. The MRP may be modified by the Water Board Executive Officer.
2. The Discharger must comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of MRP No. R6V-2010-0010.

IV. PROVISIONS

A. Standard Provisions

The Discharger must comply with the "Standard Provisions for Waste Discharge Requirements," dated September 1, 1994, in Attachment "E," which is made part of this Order.

B. Claim of Copyright of Other Protection

Any and all reports and other documents submitted to the Lahontan Water Board pursuant to this request will need to be copied for some or all of the following reasons: 1) normal internal use of the document, including staff copies, record copies, copies for Board members and agenda packets, 2) any further proceedings of the Lahontan Water Board and the State Water Board, 3) any court proceeding that may involve the document, and 4) any copies requested by members of the public pursuant to the Public Records Act or other legal proceeding.

If the Discharger or its contractor(s) claims any copyright or other protection, the submittal must include a notice, and the notice will accompany all documents copied for the reasons stated above. If

copyright protection for a submitted document is claimed, failure to expressly grant permission for the copying stated above will render the document unusable for the Lahontan Water Board's purposes and will result in the document being returned to the Discharger as if the task had not been completed.

C. Closure Plan

The preliminary closure plans must be updated if there is a substantial change in operations or costs for closure. A report must be submitted annually indicating conformance with existing operations. Final plans must be submitted at least 140 days prior to beginning any partial or final closure activities, or prior to discontinuing the use of the Facility for waste treatment, storage, or disposal. The final plans must be prepared by or under the supervision of either a California registered civil engineer or a certified engineering geologist and be in compliance with CCR, title 27, sections 21400 and 21410.

D. Modifications to the Facility

If the Discharger intends to expand the Facility or the capacity of the Waste Pile or Surface Impoundments, a report must be filed **no later than 140 days prior** to the anticipated change, containing a detailed plan for Facility expansion. This plan must include, but is not limited to, a time schedule for studies, design, and other steps needed to provide additional capacity, and must be done in accordance with an accepted construction quality control plan.

V. TIME SCHEDULE

A. Financial Assurance Documents

At least 60 days prior to discharge to the Waste Pile or to the Surface Impoundments, and yearly thereafter, the Discharger must submit Instruments of Financial Assurance acceptable to the Water Board and adequate to cover the costs of closure and a reasonably foreseeable release from the Facility. An increase may be necessary due to inflation, a change in regulatory requirements, a change in the approved closure plan, or other unforeseen events.

B. Final Construction Quality Assurance Report

Following the completion of construction of the Facility, and **at least 60 days** prior to discharge onto the newly constructed Waste Pile and Surface Impoundments, the final documentation required in CCR, title 27, section 20324, subdivision (d)(1)(C), must be submitted to the Water

Board for review and acceptance. This report must be submitted to the Water Board **no later than 180 days** after completion of construction activities. The report must be certified by a registered civil engineer or a certified engineering geologist. It must contain sufficient information and test results to verify that construction was in accordance with the submitted design plans and specifications and with the accepted engineered alternative to the prescriptive standards and performance goals of CCR, title 27.

C. Submittal of Plans

1. Facility Design Plans

At least 90 days prior to construction, the Discharger must submit design plans for the Facility in accordance with the requirements of CCR, title 27, sections 20310 and 20320, including a design capacity for containing the runoff from the Facility for a 1,000-year, 24-hour event; the Facility's berm designed to divert stormwater run-on from a 100-year, 24-hour storm event; Leak Detection Monitoring Sumps (LDMS) unsaturated zone monitoring system; and groundwater monitoring well locations, to be accepted by the Water Board's Executive Officer.

2. Monitoring and Reporting Plan

At least 60 days prior to operation of the Facility, the Discharger must submit a Monitoring and Reporting Plan to be accepted by the Water Board's Executive Officer, including procedures for monitoring and reporting for the Waste Pile, Surface Impoundments, LDMS, unsaturated zone monitoring system, groundwater monitoring wells, native background soils, and odor at the Facility.

3. Storm Contingency Plan

At least 90 days prior to the operation of the Facility, the Discharger must submit a Storm Contingency Plan that provides a narrative description of the procedures that Facility personnel must follow to lower the water levels in the Surface Impoundments such that the next anticipated storm event will not affect the requirement to maintain at least 2 feet of freeboard in each impoundment. The plan must specify how the water will be removed, where the water may be taken, how these processes will be monitored and documented. If storm events occur that triggers implementation of the Storm Contingency Plan, the Discharger must document and

report these activities to the Water Board in Quarterly Self Monitoring Reports.

4. Sampling and Analysis Plan

At least 60 days prior to operation of the facility, the discharger must submit a Sampling and Analysis Plan to be accepted by the Water Board's Executive Officer, including procedures for sampling and analysis for the Waste Pile, Surface Impoundments, LDMS, unsaturated zone monitoring system, groundwater monitoring wells, native background soils, and odor at the Facility.

5. Known or Reasonably Foreseeable Release Plan and Financial Assurance Instrument

At least 120 days prior to operation of the Facility, the Discharger must submit a plan for addressing a known or reasonably foreseeable release (KRFR Plan) from the Waste Pile and Surface Impoundments in accordance with the requirements in CCR, title 27, sections 20380, subdivision (b) and 22222. The KRFR Plan must include a cost estimate to implement the plan and a proposed financial assurance instrument meeting CCR, title 27, sections 22220 to 22222 and 22225 *et seq.* The KRFR Plan and cost estimate to implement the plan must be prepared by, or under the supervision of, a California registered professional geologist or a California registered professional engineer.

D. Monitoring Systems Installation Report

No later than 180 days following completion of construction and **at least 60 days** prior to discharge, the Discharger must submit a technical report discussing the installation of the monitoring systems. The report shall summarize all work activities associated with the installation of the monitoring systems. The report must be certified by a California registered civil engineer or a California registered professional geologist. It must contain sufficient information to verify that the construction was in accordance with State and/or County standards.

E. Water Quality Protection Standard

No later than 760 days following construction (8 quarters of monitoring, plus 30 days to generate the Water Quality Protection Standard), the Discharger must propose for acceptance by the Water Board a list of monitoring parameters and constituents of concern for the aquifer, including a data analysis method, and a Water Quality Protection Standard, which includes concentrations limits that define background

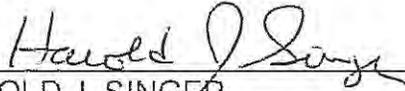
NURSERY PRODUCTS
HAWES COMPOSTING FACILITY
San Bernardino County

- 27 -

BOARD ORDER NO.
R6V-2010-0010
WDID NO. 6B360903006

water quality for all constituents of concern and for each Point of Compliance. The report must be certified by a California registered civil engineer or a California registered professional geologist.

I, Harold J. Singer, 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 Board, Lahontan Region, on March 10, 2010.

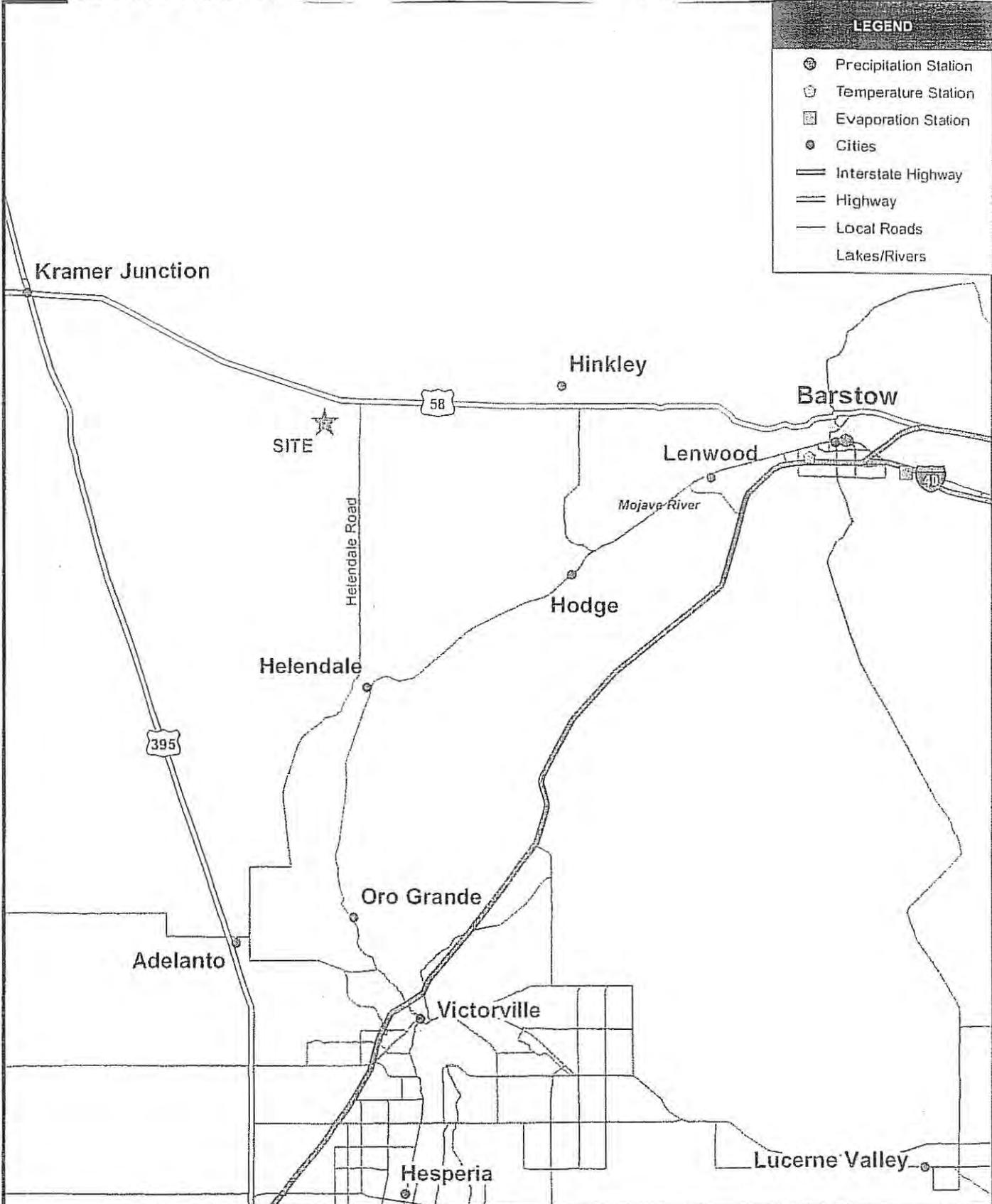


HAROLD J. SINGER
EXECUTIVE OFFICER

- Attachments:
- A. Vicinity Map
 - B. Location Map
 - C. Background Groundwater Sample Results, March 19, 2009
 - D. Leachate Sample Analytical Results
 - E. Standard Provisions for Waste Discharge Requirements

Bb/rp BO2010/NurseryProducts/ /R6V-2010-0010 WDR -NP

LEGEND	
	Precipitation Station
	Temperature Station
	Evaporation Station
	Cities
	Interstate Highway
	Highway
	Local Roads
	Lakes/Rivers



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SOURCES: ESRI (Base Data);
 San Bernardino County (Temperature);
 CIMIS (Evaporation);
 DWR (Precipitation).

VICINITY MAP
 NURSERY PRODUCTS HAWES COMPOSTING FACILITY
 SAN BERNARDINO COUNTY, CA



3 0 3 6 Miles
 SCALE: 1" = 6 Miles (1:380,160)
 SCALE CORRECT WHEN PRINTED AT 8.5X11

CHECKED BY JLN	DATE: 04-17-09	FIG. NO:
PM: DEM	PROJ. NO: 27657037.00100	1

PROPERTY BOUNDARY

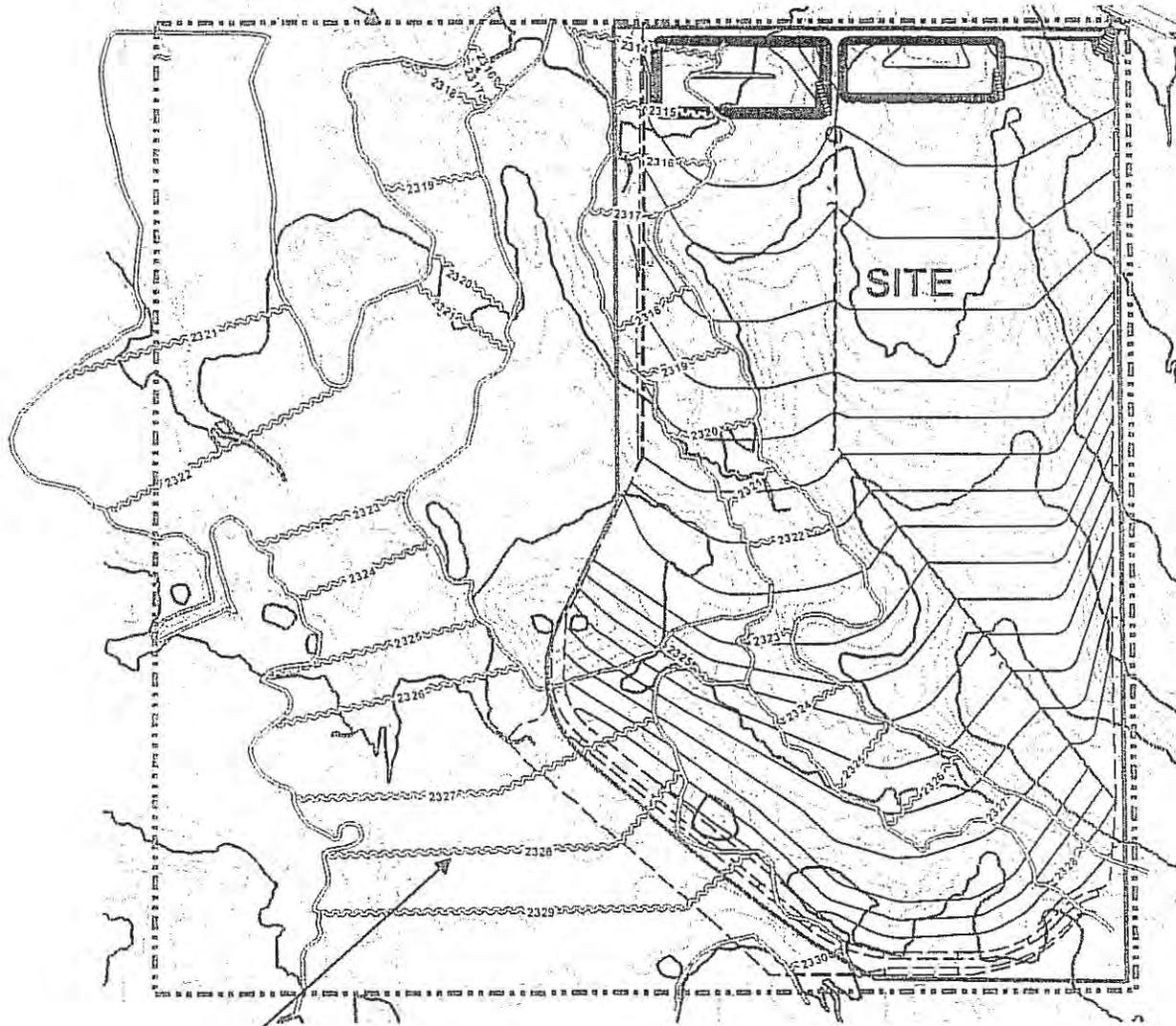
NURSERY PRODUCTS
HAWES COMPOSTING FACILITY
San Bernardino County

Attachment B
Location Map

BOARD ORDER NO.
R6V-2010-0010
WDID NO. 6B360903006

LEGEND

-  Property Boundary
-  Site
-  Pre-Project Limits
100-year Floodplain



100-Year Floodplain



SOURCES:
USGS (7.5 minute Twelve Gauge
Lake quad); ESRI (roads);
AEI CASC (Floodplain).

FLOODPLAIN MAP
NURSERY PRODUCTS HAWES COMPOSTING FACILITY
SAN BERNARDINO COUNTY, CA



250 0 250 500 Feet

SCALE: 1" = 500' (1:6,000)
SCALE CORRECT WHEN PRINTED AT 8.5X11

CREATED BY JLN

DATE: 04-17-09

FIG. NO:

PM: DEM

PROJ. NO: 27657037.00100

7

NURSERY PRODUCTS
HAWES COMPOSTING FACILITY Leachate Sample Analytical Results
San Bernardino County

ATTACHMENT C

BOARD ORDER NO.
R6V-2010-0010
WDID NO. 6B360903006

Constituent	Sample	Highest Concentration	MCL	Back-ground	Units
Alkalinity	Biosolid - CalScience No. 0175	392	NE	NA	mg/L
Aluminum	Biosolid - CalScience No. 0175	11.9	0.2	0.0755	mg/L
Ammonia as Nitrogen	Biosolid and Green Material - AETL No. 53116	128	NE	NA	mg/L
Antimony	Biosolid - CalScience No. 0175	0.00791	0.006	<0.00100	mg/L
Arsenic	Biosolid - CalScience No. 0175	0.0171	0.01	0.00158	mg/L
Asbestos		NA	7	<4.80	MFL
Barium	Biosolid - CalScience No. 0175	0.218	1	0.396	mg/L
Beryllium		<0.00050	0.004	<0.00100	mg/L
Bicarbonate	Biosolid - CalScience No. 0175	392	NE	NA	mg/L
Boron	Biosolid and Green Material - AETL No. 53116	0.236	NE	NA	mg/L
Cadmium	Biosolid - CalScience No. 0175	0.00202	0.005	<0.00100	mg/L
Calcium	Biosolid and Green Material - AETL No. 53115	251	NE	NA	mg/L
Carbonate	Biosolid - CalScience No. 0175	<1.0	NE	NA	mg/L
Chloride	Biosolid and Green Material - AETL No. 53116	116	250	120	mg/L
Chromium	Biosolid - CalScience No. 0175	0.0175	0.05	<0.00100	mg/L
Cobalt	Biosolid and Green Material - AETL No. 53115	0.0154	NE	NA	mg/L
Copper	Biosolid - CalScience No. 0175	0.507	0.2	0.00387	mg/L
Cyanide	Biosolid and Green Material - AETL No. 53116	<0.05	0.15	<0.050	mg/L
Fluoride	Biosolid and Green Material - CalScience No. 0174	0.24	2.0	1.7	mg/L
Hardness	Biosolid and Green Material - AETL No. 53116	590	NE	NA	mg/L
Hexavalent Chromium	Biosolid and Green Material - AETL No. 53116	<0.0020	0.05	<0.0010	mg/L
Iron	Biosolid - CalScience No. 0175	2.21	0.3	<0.100	mg/L
Lead	Biosolid and Green Material - AETL No. 53116	0.00995	0.015	NA	mg/L
Magnesium	Biosolid and Green Material - AETL No. 53116	36.5	NE	NA	mg/L
Manganese	Biosolid and Green Material - CalScience No. 0174	0.254	0.05	0.3	mg/L
MBAS	Biosolid - CalScience No. 0175	3.5	0.5	0.14	mg/L
Mercury	Biosolid - CalScience No. 0175	0.000804	0.002	<0.000500	mg/L
Molybdenum	Biosolid - CalScience No. 0175	0.507	NE	NA	mg/L
MTBE	Biosolid and Green Material - AETL No. 53116	<0.0010	0.005	<0.00050	mg/L
Nickel	Biosolid and Green Material - AETL No. 53115	0.143	0.1	0.00136	mg/L
Nitrate (as NO3)	Biosolid - CalScience No. 0175	5.6	10	5	mg/L
Nitrate as Nitrogen	Biosolid and Green Material - CalScience No. 0174	1.3	10	NA	mg/L

Nitrate-Nitrite (as N)	Biosolid and Green Material - AETL No. 53116	0.771	10	1.4	mg/L
Nitrite (as N)	Biosolid and Green Material - AETL No. 53115	0.229	1	<0.1	mg/L
Perchlorate	Biosolid and Green Material - AETL No. 53116	<0.0020	0.006	<0.0020	mg/L
pH	Biosolid - CalScience No. 0175	7.07	6.5-8.4	8.1	pH units
Phosphorous	Biosolid - CalScience No. 0175	180	NE	NA	mg/L
Potassium	Biosolid and Green Material - AETL No. 53116	161	NE	NA	mg/L
SC	Biosolid and Green Material - AETL No. 53116	2800	900	1200	umhos/cm
Selenium	Biosolid and Green Material - AETL No. 53116	0.0175	0.03	0.00195	mg/L
Silver	Biosolid - CalScience No. 0175	0.00593	0.1	<0.0010	mg/L
Sodium	Biosolid and Green Material - AETL No. 53115	84.7	NE	NA	mg/L
Sulfate	Biosolid and Green Material - AETL No. 53115	760	250	240	mg/L
TDS	Biosolid and Green Material - AETL No. 53116	1850	500	752	mg/L
Thallium		<0.00010	0.002	<0.00100	mg/L
Thiobencarb	Biosolid and Green Material - AETL No. 53116	<0.00020	0.001	<0.00020	mg/L
Total Kjeldahl Nitrogen	Biosolid - CalScience No. 0175	220	NE	NA	mg/L
Turbidity	Biosolid and Green Material - AETL No. 53116	3.9	5	43,000	NTU
Vanadium	Biosolid - CalScience No. 0175	0.0426	0.1	NA	mg/L
Zinc	Biosolid - CalScience No. 0175	0.439		0.246	mg/L

Bolded values indicate sample concentration exceeds background and/or MCL.

MBAS = Methylene Blue Active Substances

MCL = Maximum contaminant level

mg/L = Milligrams per liter

SC = Specific Conductance

TDS = Total Dissolved Solids

umhos/cm = Micromhos per centimeter

Background Groundwater
Sample Results
March 19, 2009

Constituent	Concentration	Units
Aluminum	0.0755	mg/L
Antimony	ND <0.00100	mg/L
Arsenic	0.00158	mg/L
Barium	0.396	mg/L
Beryllium	ND	mg/L
Bicarbonate	NR	
Boron	NR	
Cadmium	ND <0.00100	mg/L
Calcium	NR	
Carbonate	NR	
Chloride	120	mg/L
Chromium	ND	
Cobalt	NR	
Copper	0.00387	mg/L
Fluoride	1.7	mg/L
Iron	ND <0.100	mg/L
Lead	NR	
Magnesium	NR	
Manganese	0.3	mg/L
MBAS	0.14	mg/L
Mercury	ND <0.000500	mg/L
Molybdenum	NR	
Nickel	0.00136	mg/L
Nitrate - as Nitrogen	1.1	mg/L
pH	8.1	
Phosphate	NR	
Potassium	NR	
SC	1200	umhos/cm
Selenium	0.00195	mg/L
Silver	ND <0.00100	mg/L

Background Groundwater Sample Results Continued

Constituent	Concentration	Units
Sodium	NR	
Sulfate	240	mg/L
TDS	752	mg/L
Thallium	ND <0.00100	mg/L
Total Alkalinity	NR	
Total Anions	NR	
Total Cations	NR	
Total Hardness	NR	
Total Phosphorus	NR	
Vanadium	NR	
Zinc	0.246	mg/L

MBAS = Methylene Blue Active Substances
mg/L = Milligrams per liter
ND = Not detected above reported concentration
NR = Constituent not reported or not analyzed
SC = Specific Conductance
TDS = Total Dissolved Solids
 $\mu\text{mhos/cm}$ = Micromhos per centimeter

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**STANDARD PROVISIONS**
FOR WASTE DISCHARGE REQUIREMENTS1. Inspection and Entry

The Discharger shall permit Regional Board staff:

- a. to enter upon premises in which an effluent source is located or in which any required records are kept;
- b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);
- c. to inspect monitoring equipment or records; and
- d. to sample any discharge.

2. Reporting Requirements

- a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.
- b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.
- c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.
- d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.
- e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation.

- f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

- a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.
- b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

**MONITORING AND REPORTING PROGRAM NO. R6V-2010-0010
WDID NO. 6B360903006**

**FOR
NURSERY PRODUCTS
HAWES COMPOSTING FACILITY**

San Bernardino County

I. WATER QUALITY PROTECTION STANDARD

A Water Quality Protection Standard (WQPS) is required by California Code of Regulations (CCR), title 27, section 20390 through 20410, to ensure the earliest possible detection of a release from the Waste Pile or Surface Impoundments to the underlying soil, groundwater, and/or surface water. The WQPS 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.

The Executive Officer shall review and approve the WQPS, or any modification thereto, for each monitored medium.

The WQPS shall:

- a. Identify all distinct bodies of groundwater that could be affected in the event of a release from the Waste Pile or Surface Impoundments. This list shall include all groundwater bearing zones.
- b. Include a map showing the monitoring points and background monitoring points for the detection monitoring program. The map shall show the surface trace of each waste management unit's point of compliance (along the downgradient boundary of the Unit), in accordance with CCR, title 27, section 20405.
- c. Evaluate the perennial direction(s) of groundwater movement within the groundwater bearing zones.

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 WQPS's concentration limits to provide season-specific concentration limits (background data sets) for each constituent of concern at each monitoring point.

1. 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 Waste Pile or Surface Impoundments. The Constituents of Concern are listed in Tables 1 through 4 (Attachments A through D), which are made part of this MRP.

Monitoring parameters are Constituents of Concern that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from the Waste Pile or Surface Impoundments. The monitoring parameters are listed in Tables 1 through 4 for the specified monitored medium.

2. Concentration Limits

For naturally occurring Constituents of Concern or non-naturally occurring Constituents of Concern whose background data set (concentration limit) exceeds its Practical Quantitation Limit (PQL), the concentration threshold for each constituent of concern shall be determined as follows:

- a. By calculation in accordance with a statistical method applied to the concentration limit (suite of background data) pursuant to CCR , title 27, section 20415; or
- b. By an alternate statistical method acceptable to the Water Board Executive Officer in accordance with CCR, title 27, section 20415.

For non-naturally occurring Constituents of Concern that do not have background values, the concentration threshold for each constituent of concern shall be taken as the PQL of the analytical method used (e.g., US-EPA Methods 8260 and 8270) in accordance with the Detection Monitoring Program. Concentration limits shall be updated by the Discharger every two years and reported in the Annual Monitoring Summary Report for the respective reporting period.

3. Point of Compliance

The point of compliance for the water standard is a vertical surface located at the hydraulically downgradient limit of the Facility that extends through the groundwater bearing zones underlying the Facility.

II. MONITORING

The Discharger must monitor the Surface Impoundments, Surface Impoundment wastewater, the Waste Pile, the berm surrounding the Facility and the entire Facility for nuisance dust and odors. All monitoring and inspecting activities must be documented. All samples, with the exception of field parameters, are to be analyzed by a California state-certified laboratory. In addition to satisfying the monitoring requirements of CCR, title 27, sections 20385 through 20430, the Discharger must also perform the following monitoring:

A. Surface Impoundment Monitoring

1. Wastewater

All wastewater samples collected under this Monitoring and Reporting Program (MRP) must be analyzed to determine the concentrations of constituents listed in Table 1 (Attachment A).

Once each quarter, a minimum of three liquid grab samples from each of the Surface Impoundments must be collected from opposite the inlet, in a quiescent surface area. A composite sample consisting of three grab samples will be produced for each Surface Impoundment. Samples must be collected and analyzed in accordance with the accepted Sampling and Analysis Plan for the Surface Impoundments. If the Surface Impoundment is dry, then indicate that it is dry in the monitoring report.

2. Dikes and Liners

a. Monthly, each of the Surface Impoundment dikes and liners must be visually inspected to determine if there are any indications of loss of integrity. Should the inspection indicate that any unauthorized discharge has occurred, or may occur, the Water Board must be notified within 48 hours, followed by confirmation in writing within 7 days.

b. Daily, measure and record the freeboard, as measured from the top of the lowest part of the dike to the wastewater surface in each Surface Impoundment. Observations and measurements must be recorded in a permanent log book kept onsite. If the Surface Impoundment is dry, then indicate that it is dry in the log book and monitoring report.

c. The Discharger must monitor the weather forecasts daily and whenever rain is forecast. Each Surface Impoundment must be inspected, and the inspection results documented prior to each predicted event. If the Discharger determines

that the Surface Impoundments potentially do not have enough capacity to hold the contents of the Surface Impoundments and any rain that may fall, then the Storm Contingency Plan must be implemented. Monitoring must occur throughout all procedures for Surface Impoundment water removal activities.

3. Leak Detection Monitoring Sumps

The Discharger must conduct the following inspections and testing of the LDMS:

- a. Weekly, inspect the LDMS for the presence of liquids. The result of these inspections must be recorded in a permanent log book kept onsite. If liquid is detected in a LDMS, the Water Board must be notified within 48 hours, followed by written confirmation within 7 days.
- b. The Discharger must record in the LDMS inspection log book the volume pumped, pumping rate, date, start and end times, and discharge location of any liquid pumped from the LDMS.
- c. Upon detection of leachate in a previously dry LDMS that was dry during the prior week inspection (defined herein as an event), the Discharger shall immediately collect a grab sample of the leachate and shall analyze the grab samples of leachate for all of the parameters identified in Table 2 (Attachment B).

4. Sludge Monitoring

Annually, in the last quarter of each year, collect a representative grab sample of the bottom sludge (if present) of each Surface Impoundment, and analyze each sample for the following constituents:

Parameter	Units	Method
Title 22 Metals	mg/L	CCR, title 22, section 66261.24 subdivision (a)(2)(A), Table II, list of inorganic persistent and bioaccumulative toxic substances and their soluble threshold limit concentrations (STLC) and total threshold limit concentration (TTLC) values.

5. Unsaturated Zone Monitoring

The Discharger must develop an Unsaturated Zone Monitoring Plan that identifies procedures for monitoring the unsaturated zone beneath the Surface Impoundments to include a workplan to install the unsaturated zone monitoring devices at least 60 days prior to operation of the Facility.

Quarterly, the Discharger must monitor the unsaturated zone beneath the Surface Impoundments.

Quarterly, the Discharger must graph time-series plots of the analytical results from the unsaturated zone monitoring at each monitoring point to show any trends in constituent concentrations through time. Time-series plots must also include, as horizontal lines, the constituent's maximum contaminant level (MCL) (if an MCL has been established), and the concentration threshold derived from the constituent's background data set (concentration limit) at that monitoring point.

B. Waste Pile Monitoring

1. Background Native Soils

The Discharger must analyze the native background soils to determine background concentrations for the monitoring parameters and constituents of concern listed in Table 3 (Attachment C) prior to the construction of the composting pad. Plans for sampling native background soils must be submitted to Water Board staff as part of the required Monitoring and Reporting Plan and Sampling and Analysis Plan, per Board Order No. R6V-2010-0010. The Discharger will characterize soil constituents of concern below the Waste Pile disposal area prior to discharge and report these data in a Background Native Soils Report by at least 60 days prior to operation of the Facility.

2. Unsaturated Zone – Waste Pile

Annually, at a minimum of 10 locations within the native engineered fill of the Waste Pile footprint, soil samples must be collected at each sampling location to a depth of 18 inches. The soil samples collected from the 6-inch depth must be analyzed to determine the concentrations of constituents of concern identified in Table 3 (Attachment C). If the results of those analyses indicate a measurably significant release, per Section III, "Data Analyses," of this Monitoring and Reporting Program, the 12-inch interval samples must be analyzed for those constituents that indicated the

release. If the results of those analyses indicate a measurably significant release, per Section III, "Data Analyses," of this Monitoring and Reporting Program, notification procedures will be followed, per section IV.G., "Unscheduled Reports to be Filed With the Water Board," of this Monitoring and Reporting Program and measures will be taken to repair or replace the composting pad. All samples, with the exception of field parameters, are to be analyzed by a California state-certified laboratory. Samples must be collected in accordance with the accepted Sampling and Analysis Plan for the Waste Pile. Following sample collection, the void space will be backfilled with bentonite and compacted.

C. Facility Storm Water Berm

Monthly, and before, during, and after any storm event that produces precipitation at the Facility, the berm around the Facility must be visually inspected to determine if there are any indications of loss of integrity. Inspections, inspection results, and activities performed to correct deficiencies must be documented. Should the inspection indicate that any unauthorized discharge has occurred, or may occur, the Water Board must be notified within 48 hours, followed by confirmation in writing within 7 days.

D. Facility Odor Monitoring

An Odor Impact Minimization Plan has been developed by the Discharger to evaluate and mitigate potential releases of nuisance odors. Daily, the Discharger will assess the site conditions and evaluate potential sources of objectionable odors and document these inspections. Documentation shall include a description of any odors detected. Wind speed and direction will be checked and logged daily and just prior to any activities at the Facility that may produce nuisance dust. Odor control measures include odor screening and load-checking procedures; feedstock storage and processing measures; windrow management measures; good housekeeping procedures; and an odor complaint response system. Odor control activities at the Facility must be documented daily in a permanent log book kept onsite.

E. Operation and Maintenance

A brief summary of any operational problems and maintenance activities must be submitted to the Water Board with each monitoring report for Nursery Products operations.

F. Dust Control

The following mitigation measures must be implemented and monitored to ensure dust is controlled at this Facility:

1. Unpaved roads shall be watered, as necessary, to minimize visible dust. Alternatively, roads may be paved;
2. During episodes of high winds (with speeds of 30 miles per hour or greater), activities that may create nuisance dust may not be performed.
3. Daily, monitor the moisture content of windrows using a standard field test for moisture as herein described, or alternate test, as approved by Water Board staff. Moisture at each windrow will be determined by taking a representative sample of the windrow materials and forming the material into a ball by hand; the materials should hold together without crumbling. If material crumbles, water must be added. Moisture monitoring activities must be documented daily in a permanent log book kept onsite.

G. Detection Monitoring

The Discharger must conduct a Detection Monitoring Program (DMP) to monitor groundwater and the unsaturated zone beneath the site and to provide the best assurance of the early detection of a release from the Facility. A Monitoring and Reporting Plan and Sampling and Analysis Plan must be submitted **60 days prior** to the installation of the unsaturated zone and groundwater monitoring systems. All samples, with the exception of field parameters, must be analyzed by a California state-certified laboratory.

1. Unsaturated Zone Monitoring

a. Waste Pile

The unsaturated zone beneath the waste pile must be monitored in accordance with section II.B.2 of the MRP.

b. Surface Impoundments

The unsaturated zone beneath the surface impoundments must be monitored in accordance with Section II.A.5 of this MRP.

2. Groundwater Monitoring

a. Monitoring Points and Point of Compliance

The Point of Compliance, as defined in CCR, title 27, section 20405, subdivision (a), is "a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit."

Groundwater monitoring wells must be installed at monitoring points upgradient of the Facility and along the Point of Compliance as part of the DMP. The groundwater monitoring program will consist of a system of wells to adequately monitor groundwater beneath the Facility, per CCR, title 27, section 20415. A work plan to install the background and Point of Compliance groundwater monitoring wells must be submitted for acceptance by the Executive Officer **at least 60 days prior** to construction. The Discharger is required to collect background water quality data for the monitoring parameters and constituents of concern listed in Table 4 (Attachment D). The Discharger must collect at least eight quarters of groundwater quality data to determine background concentration limits for the monitoring parameters and COCs. The Discharger must submit a complete WQPS, which includes concentration limits that define background water quality for all COCs, and the Point of Compliance monitoring points. These data must be reported to the Water Board within 30 days following eight consecutive quarters of monitoring in the required Water Quality Protection Standard.

For any constituent that is naturally occurring at this site, its concentration threshold at a given monitoring point is the upper 99th Parametric Prediction Limit of the suite of at least eight background monitoring points collected pursuant to this subsection.

The concentration threshold for each man-made organic constituent that is not proven to have originated from a source other than the Facility is the laboratory PQL for that constituent.

b. Depth to Groundwater

Quarterly, prior to sampling and purging, the Discharger must measure and record the depth below the ground surface and elevation above mean sea level (msl) of the static groundwater surface in all groundwater monitoring

wells. The Discharger shall use these measurements, which shall be accurate to the nearest 0.01 foot, to determine the groundwater surface map, pursuant to section II.G.2.d, "Aquifer Characteristics," below, and the groundwater flow direction, pursuant to section II.G.2.e below, each quarter.

c. Groundwater Sampling and Purging

Quarterly, the Discharger must collect samples from each groundwater monitoring well. The wells must be purged of at least three well volumes until temperature, electrical conductivity, and pH of extracted well water have stabilized to within +/- five (5) percent. Samples must be collected and analyzed using U.S. EPA methods. The samples must be analyzed to determine the concentrations of parameters described in Table 1 (Attachment A).

d. Aquifer Characteristics

Quarterly, the most recent groundwater potentiometric surface must be illustrated on an 8.5" x 11" or an 11" x 17" copy of a Facility plan, showing the locations of the Waste Pile, Surface Impoundments, and monitoring wells, as well as the parameters listed below in the Table – Aquifer Characteristics.

Table – Aquifer Characteristics

Parameter	Units
Depth to Groundwater	Feet below ground surface
Static Water Level	Feet above mean sea level
Slope of Groundwater Gradient	Feet/Feet
Direction of Groundwater Flow	Degrees from true North
Velocity of Groundwater Flow	Feet/Year

- e. Quarterly, the Discharger must calculate, record, and report the groundwater gradient, the direction of the gradient, and the velocity of groundwater flow.
- f. Quarterly, the Discharger must graph time-series plots of the analytical results from the groundwater monitoring at each monitoring point to show any trends in constituent concentrations through time. Time-series plots must also include, as horizontal lines, the constituents' maximum contaminant level (MCL) (if an MCL has been established), and the concentration threshold derived from the constituent's background data set (concentration limit) at that monitoring point.

- g. Annually, water quality in monitoring wells constructed for groundwater monitoring of the Facility must be reported in the annual report in tabular and graphical form. Each table must summarize the historical and most recently detected constituent concentrations for all wells sampled, and compare these data to both the applicable concentration threshold and the Maximum Contaminant Level (MCL) established for each monitoring parameter/constituent of concern. Each such graph must be plotted using raw data, and at a scale appropriate to show trends or variations in water quality. For graphs showing the trends of similar constituents (e.g., volatile organic compounds), the scale must be the same.

III. DATA ANALYSES

All data analyses methods (statistical and non-statistical) must meet the requirements of the California Code of Regulations, title 27, sections 20415, subdivisions (e)(8) and (9).

A. Statistical Data Analysis Method

In order to determine if any new releases have occurred from the Facility, evaluation of data will be conducted using statistical methods. For Detection Monitoring, the Discharger shall use statistical methods to analyze COCs and monitoring parameters that exhibit concentrations that equal or exceed their respective method detection limit in at least ten percent of applicable historical samples. The Discharger may propose and use any data analyses that meets the requirements of California Code of Regulations, title 27, section 20415, subdivision (e)(7). The report titled "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance" (USEPA, 2009) or subsequent versions may also be used to select the statistical test to use for comparing detection monitoring data to background monitoring data.

B. General Non-Statistical Data Analysis Method

In order to determine if any new releases have occurred from the Facility, evaluation of data will also be conducted using non-statistical methods. Non-statistical analyses shall be as follows:

1. Physical Evidence

Physical evidence can include unexplained stress in biological communities such as vegetation loss, soil discoloration, or groundwater mounding. Each quarterly report must comment on such physical elements.

2. Time-Series Plots

Quarterly, the Discharger shall graph time-series plots of the historical and most recent analytical results from unsaturated zone and groundwater monitoring to show trends in constituent concentrations through time. Time-series plots must include the applicable MCL and both the mean and median of the WQPS for each respective constituent, or monitoring parameter. Time series plots are not required for parameters that have never been detected above their method detection limit (as specified by the applicable USEPA method) or if there are less than four quarters of data. Evidence of a release may include trends of increasing concentrations of one or more constituents over time.

IV. REPORTING REQUIREMENTS

The Discharger must comply with the following reporting requirements:

A. General Provisions

The Discharger must comply with Attachment E, "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made a part of this MRP.

B. Failure to Furnish Reports

Any person failing or refusing to furnish technical or monitoring reports or falsifying any information provided therein is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation pursuant to California Water Code, section 13268.

C. Violations

If monitoring data indicate violation of WDRs, the Discharger must identify the violation and provide information indicating the cause of violation(s) and action taken or planned to bring the discharge into compliance.

D. Quarterly Monitoring Reports

Monitoring reports, including the preceding information, must be submitted to the Water Board on the **30th day of the month following each quarter**, per the following schedule:

<u>Sampling and Reporting Frequency</u>	<u>Quarterly Period</u>	<u>Report Date Due</u>
Quarterly	January 1 – March 31	April 30
Quarterly	April 1 – June 30	July 30
Quarterly	July 1 – September 30	October 30
Quarterly	October 1 – December 31	January 30

Each quarterly report must include the following:

1. Results of sampling and laboratory analyses for each groundwater monitoring point, including statistical limits for each monitoring parameter and an identification of each sample that exceeds its respective statistical limit at any given monitoring point;
2. A description and graphical presentation of the velocity and direction of groundwater flow under/around the Facility, based upon water-level elevations taken during the collection of the water quality data submitted in the report;
3. A map and/or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points, and the Point of Compliance along the downgradient boundary of the Facility;
4. Surface Impoundments monitoring including an evaluation of the effectiveness of the leachate monitoring and control facilities. Monitoring must include a summary of Surface Impoundment pumping activities for dust control mitigation measures;
5. If the Storm Contingency Plan is implemented during a quarter, the Discharger must report the volume of liquid removed and the location the liquid was taken to for disposal; to include the beginning and ending freeboard levels.
6. Monitoring of the Facility Berm including an evaluation of the effectiveness of the runoff/runon control facilities;
7. Data collected in accordance with the approved Sampling and Analysis Plan for the Surface Impoundments' unsaturated zone monitoring system and groundwater monitoring wells;
8. An assessment of odor impacts in accordance with the approved Odor Impact Minimization Plan, and mitigation measures implemented for nuisance odor control;

9. A summary of all daily wind monitoring data in tabular form with wind speeds in excess of 30 miles per hour highlighted in the table;
10. A summary of moisture monitoring measures for windrows, including any instances where water had to be added to the windrow;
11. A letter transmitting the essential points of each report, including a discussion of any violations found since the last report was submitted and describing actions taken or planned for correcting those violations; and,
12. If the Discharger has previously submitted a detailed time schedule for correcting violations, a reference to the correspondence transmitting this schedule will be satisfactory. If no violations have occurred since the last submittal, this must be stated in the letter of transmittal.

E. Annual Monitoring Reports

Annual Monitoring Reports must be submitted to the Water Board no later than **April 30** of each year. The reports must include the items described in the General Provisions for Monitoring and Reporting (Attachment E), the information under Section IV.D., and the following information:

1. A list of all monitoring point/monitoring parameter (MPt/MPar) pairs, by medium, that have exhibited a verified measurably significant increase, together with the respective date (for each) when that increase occurred. Any MPt/MPar pairs that have shown an increase within that (prior) year shall be bolded-and-underlined. In addition, by medium, list any non-monitoring parameter COCs that, during testing that year (tested every five years), have exceeded their respective statistical limit and, as a result, have become monitoring parameters, together with the date when the transition occurred;
2. Time-series data plots of groundwater, soil gas, and soil moisture analysis. Time-series plots must also include appropriate MCL or concentration threshold established for each respective constituent that has not shown a verified release. For a pair that has a verified release indication, these plots must also include the cleanup goal;
3. Four maps, one for each quarter of the last reporting year, showing the groundwater elevation isocontours determined for that quarter, and showing the Waste Pile and Surface Impoundments perimeters and the groundwater monitoring point and background monitoring

point locations for each waste management unit, and including the surface trace of the Facility's point of compliance;

4. Graphical and tabular data for the monitoring data obtained for the previous calendar year (January – December). Each table must summarize the historical and most recently detected constituents concentrations for all locations sampled, and compare these data to both the given monitoring point/COC pair's respective statistical limit and (if applicable) and MCL, and be labeled appropriately. Each such graph must be plotted using raw data, and at a scale appropriate to show trends or variations in water quality. For graphs showing trends of similar constituents (e.g., volatile organic compounds), the scale must be the same;
5. Calibration methods and any discrepancies of any meters used for field parameter evaluations after calibration is performed;
6. The compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the discharge requirements;
7. Evidence that adequate financial assurance for closure and corrective action for all known or reasonably foreseeable releases is still in effect. Evidence may include a copy of the renewed financial instrument or a copy of the receipt for payment of the financial instrument. Evidence of adequate financial assurance must be signed by the Corporate Officer;
8. Evidence that the financial assurance amount is adequate or increase the amount of financial assurance by an appropriate amount if necessary, due to inflation, a change in the approved closure plan, or other unforeseen events; and,
9. The Discharger must review the preliminary closure plan and corrective action plan for all known or reasonably foreseeable releases annually to determine if significant changes in the operation of the Facility warrant an update to any of these plans. Changes to these plans must be submitted to the Water Board in the annual report.

F. Five-Year Non-Monitoring Parameter Constituent of Concern Monitoring Program

Pursuant to CCR, title 27, section 20420, subdivision (g), every five years the Discharger must sample for non-monitoring parameter COCs with successive direct monitoring efforts being carried out alternatively during January 1 through June 30 of one five-year sampling event and July 1

through December 31 of the next five-year sampling event, and every fifth year, thereafter. The first five-year non-monitoring parameter COC sampling event must take place during **January 1 through June 30 of the second year of operation of the Facility**, and reported no later than 45 days following the monitoring period.

G. Unscheduled Reports to be Filed With the Water Board

The following reports must be submitted to the Water Board as specified below:

1. Release from the Waste Pile or Surface Impoundments

The Discharger must perform the procedures contained in this subsection whenever there is evidence of a release from the Facility.

a. Physical or Measurably Significant Evidence of a Release from the Waste Pile or Surface Impoundments

The Discharger must immediately notify the Water Board verbally whenever a determination is made that there is physical or "measurably significant" evidence of a release from the Waste Pile or Surface Impoundments. This verbal notification must be followed by written notification via certified mail within seven days of such determination. Upon such notification, the Discharger may initiate verification procedures or demonstrate that another source other than the Surface Impoundments or Waste Pile caused evidence of a release (see below).

The notification must include the following information:

- i. Surface Impoundment(s) or Waste Pile that may be the source of the release;
- ii. General information including the date, time, location, and cause of the release;
- iii. An estimate of the flow rate and volume of waste involved;
- iv. A procedure for collecting samples and description of laboratory tests to be conducted;
- v. Identification of any water body or water-bearing media affected or threatened;

- vi. A summary of proposed actions; and,
 - vii. For physical evidence of a release – physical factors that indicate evidence of a release.
- b. Other Source That May Cause Evidence of a Release From the Waste Pile or Surface Impoundments

The Discharger may make a demonstration that a source other than the Waste Pile or Surface Impoundments caused evidence of a release. For this case, the Discharger must notify the Water Board of the intention to make this demonstration. The notification must be sent to the Water Board by certified mail within seven days of determining physical or measurably significant evidence of a release.

2. Evaluation Monitoring

The Discharger must, within 90 days of verifying a “measurably significant” release, submit a technical report pursuant to California Water Code (CWC) section 13267, subdivision (b), proposing an Evaluation Monitoring Program (EMP). If the Discharger decides not to conduct verification procedures, or decides not to make a demonstration that a source other than the surface impoundment is responsible for the release, the release will be considered verified.

The Discharger must, within 90 days of determining a “measurably significant” evidence of a release, submit to the Water Board an amended report of waste discharge to establish an evaluation monitoring program meeting the provisions of CCR, title 27, section 20420, subdivision (k)(5). The report must include the following information:

- a. COC Concentrations – the maximum concentration of each COC at each Monitoring Point as determined during the most recent COC sampling event (i.e., under CCR, title 27, section 20420, subdivision (g) or (k)[1]). Any COC that exceeds its background limit is to be retested at that monitoring point. Should the results of the retest verify that the COC is above the background limit, then that COC will become a monitoring parameter at all monitoring points;
- b. Proposed Monitoring System Changes – any proposed changes to the water quality monitoring systems at the Surface Impoundments necessary to meet the provisions of CCR, title 27, section 20425;

- c. Proposed Monitoring Changes – any proposed additions or changes to the monitoring frequency, sampling and analytical procedures or methods, or statistical methods used at the Facility necessary to meet the provisions of CCR, title 27, section 20425; and,
- d. Proposed Delineation Approach – a detailed description of the measures to be taken by the Discharger to assess the nature and extent of the release from the Waste Pile or Surface Impoundments.

3. Engineering Feasibility Study Report

Within 180 days of verifying the existence of a release, the Discharger shall submit an Initial Engineering Feasibility Study report meeting CCR, title 27, section 20420, subdivision (k)(6), proposing corrective action measures that could be taken to achieve background concentrations for all constituents of concern involved in the release. This report will be the basis for a later expanded Engineering Feasibility Study, submitted under the Evaluation Monitoring Program, per CCR, title 27, section 20425, subdivision (b).

H. Technical Reports

Pursuant to California Water Code, section 13267, subdivision (b):

1. Completion of Construction Report

No later than 90 days following completion of construction, the Discharger must submit a technical report discussing the installation of the monitoring system. The report shall summarize all work activities associated with the installation of the monitoring system. The report must be certified by a registered civil engineer or a registered professional geologist. It must contain sufficient information to verify that construction was in accordance with State and/or County standards.

2. Monitoring and Reporting Plan

At least 60 days prior to operation of the Facility, the Discharger must submit a Monitoring and Reporting Plan, to be accepted by the Water Board's Executive Officer, including procedures for monitoring and reporting for the Waste Pile, Surface Impoundments, the LDMS, the unsaturated zone monitoring system, the groundwater monitoring wells, native background soils, and odor at the Facility.

3. **Sampling and Analysis Plan**

At least 60 days prior to operation of the Facility, the Discharger must submit a Sampling and Analysis Plan, to be accepted by the Water Board's Executive Officer, including procedures for sampling and analysis of the Waste Pile, Surface Impoundments, the LDMS, the unsaturated zone monitoring system, the groundwater monitoring wells, native background soils, and odor at the Facility.

4. **Background Native Soils Report**

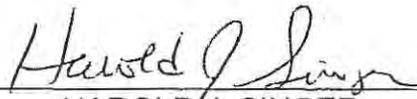
At least 60 days prior to operation of the Facility, the Discharger must submit a Background Native Soils Report that characterizes the background constituents of concern listed in Table 3 (Attachment C) for native soils (background conditions) at the Facility and below the waste pile disposal area (pad) prior to any discharge activities.

5. **Unsaturated Zone Monitoring Plan**

At least 60 days prior to operation of the Facility, the Discharger must submit an Unsaturated Zone Monitoring Plan that identifies procedures for monitoring the unsaturated zone beneath the Surface Impoundments to include a Workplan to install the unsaturated zone monitoring devices.

6. **Water Quality Protection Standard**

No later than 760 days following beginning of operations, the Discharger must submit for acceptance by the Water Board a proposed data analysis method and a proposed concentration limit (background data set) consisting of at least eight data points from an appropriate groundwater background data source for each COC at each monitoring point. The report must be certified by a registered civil engineer or a registered professional geologist.

Ordered by:  Dated: March 10, 2010
HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments: A. Table 1, Surface Impoundment Monitoring Parameters and Constituents of Concern
B. Table 2, Leak Detection Monitoring Sumps Monitoring Parameters and Constituents of Concern

- C. Table 3, Unsaturated Zone Monitoring Parameters and Constituents of Concern
- D. Table 4, Groundwater Monitoring Parameters and Constituents of Concern
- E. General Provisions for Monitoring and Reporting, September 1, 1994

Table 1- SURFACE IMPOUNDMENT
Monitoring Parameters and Constituents of Concern

Field Parameters	Units	Monitoring Frequency
Freeboard	Feet and tenths	Monthly and following storm events
Specific Conductance	µmhos/cm	Quarterly
Temperature	°F or °C	Quarterly
Turbidity	NTU	Quarterly
pH	Units	Quarterly
Monitoring Parameters	Units	Monitoring Frequency
Aluminum	mg/L	Quarterly
Antimony	mg/L	Quarterly
Arsenic	mg/L	Quarterly
Coliform, Fecal	MPN/100 ml	Quarterly
Coliform, Total	MPN/100 ml	Quarterly
Copper	mg/L	Quarterly
Escherichia coli (E. coli)	CFU/100 ml	Quarterly
Iron	mg/L	Quarterly
Manganese	mg/L	Quarterly
MBAS	mg/L	Quarterly
Nickel	mg/L	Quarterly
Nitrate as Nitrogen	mg/L	Quarterly
Sulfate	mg/L	Quarterly
TDS	mg/L	Quarterly
Constituents of Concern	Units	Monitoring Frequency
Barium	mg/L	Quarterly
Beryllium	mg/L	Quarterly
Bicarbonate	mg/L	Quarterly
Boron	mg/L	Quarterly
Bromide	mg/L	Quarterly
Cadmium	mg/L	Quarterly
Calcium	mg/L	Quarterly
Carbonate	mg/L	Quarterly
Chloride	mg/L	Quarterly
Chromium (hexavalent)	µg/L	Quarterly
Chromium (total)	µg/L	Quarterly
Cobalt	mg/L	Quarterly
Fluoride	mg/L	Quarterly
Total Kjeldahl Nitrogen	mg/L	Quarterly
Lead	mg/L	Quarterly
Magnesium	mg/L	Quarterly
Mercury	mg/L	Quarterly
Molybdenum	mg/L	Quarterly
Nitrite (as Nitrogen)	mg/L	Quarterly
Orthophosphate Phosphorous	mg/L	Quarterly
Phosphate	mg/L	Quarterly
Potassium	mg/L	Quarterly
Selenium	mg/L	Quarterly

Table 1- SURFACE IMPOUNDMENT Continued

Constituents of Concern	Units	Monitoring Frequency
Silver	mg/L	Quarterly
Sodium	mg/L	Quarterly
Thallium	mg/L	Quarterly
Total Alkalinity	mg/L	Quarterly
Total Anions	mg/L	Quarterly
Total Cations	mg/L	Quarterly
Total Hardness	mg/L	Quarterly
Total Phosphorus	mg/L	Quarterly
Vanadium	mg/L	Quarterly
Zinc	mg/L	Quarterly
VOCs	µg/L	Quarterly
SVOCs	µg/L	Quarterly
Organochlorine Pesticides	µg/L	Quarterly
Organophosphorus Pesticides	µg/L	Quarterly
Chlorinated Herbicides	µg/L	Quarterly
CCR, Title 22 Metals	mg/L	Quarterly

CCR = California Code of Regulations

CFU = Colony Forming Units

°C = Degrees Centigrade

°F = Degrees Fahrenheit

MBAS = Methylene Blue Active Substances

µg/L = Micrograms per liter

µmhos/cm = Micromhos per centimeter

mg/L = Milligrams per liter

ml = Milliliter

MPN = Most Probable Number

NTU = Nephelometric Turbidity Units

SVOC = Semi-Volatile Organic Compound

TDS = Total Dissolved Solids

VOC = Volatile Organic Compound

Table 2- LEAK DETECTION MONITORING SUMPS
Monitoring Parameters and Constituents of Concern

Field Parameters	Units	Monitoring Frequency
Specific Conductance	µmhos/cm	Quarterly
Temperature	°F or °C	Quarterly
Turbidity	NTU	Quarterly
pH	Units	Quarterly
Monitoring Parameters	Units	Monitoring Frequency
Aluminum	mg/L	Quarterly
Antimony	mg/L	Quarterly
Arsenic	mg/L	Quarterly
Coliform, Fecal	MPN/100 ml	Quarterly
Coliform, Total	MPN/100 ml	Quarterly
Copper	mg/L	Quarterly
Escherichia coli (E. coli)	CFU/100 ml	Quarterly
Iron	mg/L	Quarterly
Manganese	mg/L	Quarterly
MBAS	mg/L	Quarterly
Nickel	mg/L	Quarterly
Nitrate as Nitrogen	mg/L	Quarterly
Sulfate	mg/L	Quarterly
TDS	mg/L	Quarterly
Constituents of Concern	Units	Monitoring Frequency
Barium	mg/L	Quarterly
Beryllium	mg/L	Quarterly
Bicarbonate	mg/L	Quarterly
Boron	mg/L	Quarterly
Bromide	mg/L	Quarterly
Cadmium	mg/L	Quarterly
Calcium	mg/L	Quarterly
Carbonate	mg/L	Quarterly
Chloride	mg/L	Quarterly
Chromium (hexavalent)	µg/L	Quarterly
Chromium (total)	µg/L	Quarterly
Cobalt	mg/L	Quarterly
Fluoride	mg/L	Quarterly
Total Kjeldahl Nitrogen	mg/L	Quarterly
Lead	mg/L	Quarterly
Magnesium	mg/L	Quarterly
Mercury	mg/L	Quarterly
Molybdenum	mg/L	Quarterly
Nitrite (as Nitrogen)	mg/L	Quarterly
Orthophosphate Phosphorous	mg/L	Quarterly
Phosphate	mg/L	Quarterly
Potassium	mg/L	Quarterly
Selenium	mg/L	Quarterly

Table 2- LEAK DETECTION MONITORING SUMPS Continued

Constituents of Concern	Units	Monitoring Frequency
Silver	mg/L	Quarterly
Sodium	mg/L	Quarterly
Thallium	mg/L	Quarterly
Total Alkalinity	mg/L	Quarterly
Total Anions	mg/L	Quarterly
Total Cations	mg/L	Quarterly
Total Hardness	mg/L	Quarterly
Total Phosphorus	mg/L	Quarterly
Vanadium	mg/L	Quarterly
Zinc	mg/L	Quarterly
VOCs	µg/L	Quarterly
SVOCs	µg/L	Quarterly
Organochlorine Pesticides	µg/L	Quarterly
Organophosphorus Pesticides	µg/L	Quarterly
Chlorinated Herbicides	µg/L	Quarterly
CCR, Title 22 Metals	mg/L	Quarterly

CCR = California Code of Regulations
CFU = Colony Forming Units
°C = Degrees Centigrade
°F = Degrees Fahrenheit
MBAS = Methylene Blue Active Substances
µg/L = Micrograms per liter
µmhos/cm = Micromhos per centimeter
mg/L = Milligrams per liter
ml = Milliliter
MPN = Most Probable Number
NTU = Nephelometric Turbidity Units
SVOC = Semi-volatile Organic Compound
TDS = Total Dissolved Solids
VOC = Volatile Organic Compound

Table 3- UNSATURATED ZONE - WASTE PILE
Monitoring Parameters and Constituents of Concern

Field Parameters	Units	Monitoring Frequency
Composting Pad Thickness	Inches	Annually
Sample Locations	Northing and Easting	Annually
Monitoring Parameters	Units	Monitoring Frequency
Aluminum	mg/kg	Annually
Antimony	mg/kg	Annually
Arsenic	mg/kg	Annually
Copper	mg/kg	Annually
Iron	mg/kg	Annually
Manganese	mg/kg	Annually
MBAS	mg/kg	Annually
Nickel	mg/kg	Annually
Nitrate as Nitrogen	mg/kg	Annually
Sulfate	mg/kg	Annually
TDS	mg/kg	Annually
Constituents of Concern	Units	Monitoring Frequency
Barium	mg/kg	Five Year
Beryllium	mg/kg	Five Year
Bicarbonate	mg/kg	Five Year
Boron	mg/kg	Five Year
Bromide	mg/kg	Five Year
Cadmium	mg/kg	Five Year
Calcium	mg/kg	Five Year
Carbonate	mg/kg	Five Year
Chloride	mg/kg	Five Year
Chromium (hexavalent)	µg/kg	Five Year
Chromium (total)	µg/kg	Five Year
Cobalt	mg/kg	Five Year
Fluoride	mg/kg	Five Year
Total Kjeldahl Nitrogen	mg/kg	Five Year
Lead	mg/kg	Five Year
Magnesium	mg/kg	Five Year
Mercury	mg/kg	Five Year
Molybdenum	mg/kg	Five Year
Nitrite (as Nitrogen)	mg/kg	Five Year
Orthophosphate Phosphorous	mg/kg	Five Year
Phosphate	mg/kg	Five Year
Potassium	mg/kg	Five Year
Selenium	mg/kg	Five Year
Silver	mg/kg	Five Year
Sodium	mg/kg	Five Year
Thallium	mg/kg	Five Year
Total Alkalinity	mg/kg	Five Year
Total Anions	mg/kg	Five Year
Total Cations	mg/kg	Five Year

Table 3- UNSATURATED ZONE - WASTE PILE, Continued

Constituents of Concern	Units	Monitoring Frequency
Total Phosphorus	mg/kg	Five Year
Vanadium	mg/kg	Five Year
Zinc	mg/kg	Five Year
VOCs	µg/kg	Five Year
SVOCs	µg/kg	Five Year
Organochlorine Pesticides	µg/kg	Five Year
Organophosphorus Pesticides	µg/kg	Five Year
Chlorinated Herbicides	µg/kg	Five Year
CCR, Title 22 Metals	mg/kg	Five Year

CCR = California Code of Regulations
MBAS = Methylene Blue Active Substances
µg/kg = Micrograms per kilogram
mg/L = Milligrams per kilogram
SVOC = Semi-Volatile Organic Compound
TDS = Total Dissolved Solids
VOC = Volatile Organic Compound

Table 4- GROUNDWATER
Monitoring Parameters and Constituents of Concern

Field Parameters	Units	Monitoring Frequency
Groundwater Elevation	Feet and hundredths (mean sea level datum)	Quarterly
Specific Conductance	µmhos/cm	Quarterly
Temperature	°F or °C	Quarterly
Turbidity	NTU	Quarterly
pH	Units	Quarterly
Monitoring Parameters	Units	Monitoring Frequency
Aluminum	mg/L	Quarterly
Antimony	mg/L	Quarterly
Arsenic	mg/L	Quarterly
Copper	mg/L	Quarterly
Iron	mg/L	Quarterly
Manganese	mg/L	Quarterly
MBAS	mg/L	Quarterly
Nickel	mg/L	Quarterly
Nitrate as Nitrogen	mg/L	Quarterly
Odor		Quarterly
Sulfate	mg/L	Quarterly
TDS	mg/L	Quarterly
Constituents of Concern	Units	Monitoring Frequency
Barium	mg/L	Annually
Beryllium	mg/L	Annually
Bicarbonate	mg/L	Annually
Boron	mg/L	Annually
Bromide	mg/L	Annually
Cadmium	mg/L	Annually
Calcium	mg/L	Annually
Carbonate	mg/L	Annually
Chloride	mg/L	Annually
Chromium (hexavalent)	µg/L	Annually
Chromium (total)	µg/L	Annually
Cobalt	mg/L	Annually
Coliform, Fecal	MPN/100ml	Annually
Coliform, Total	MPN/100ml	Annually
Escherichia Coli (e-coli)	CFU/100ml	Annually
Fluoride	mg/L	Annually
Total Kjeldahl Nitrogen	mg/L	Annually
Lead	mg/L	Annually
Magnesium	mg/L	Annually
Mercury	mg/L	Annually
Molybdenum	mg/L	Annually
Nitrite (as Nitrogen)	mg/L	Annually
Orthophosphate Phosphorous	mg/L	Annually

Table 4- GROUNDWATER Continued

Constituents of Concern	Units	Monitoring Frequency
Phosphate	mg/L	Annually
Potassium	mg/L	Annually
Selenium	mg/L	Annually
Silver	mg/L	Annually
Sodium	mg/L	Annually
Thallium	mg/L	Annually
Total Alkalinity	mg/L	Annually
Total Anions	mg/L	Annually
Total Cations	mg/L	Annually
Total Hardness	mg/L	Annually
Total Phosphorus	mg/L	Annually
Vanadium	mg/L	Annually
Zinc	mg/L	Annually
VOCs	µg/L	Annually
SVOCs	µg/L	Annually
Organochlorine Pesticides	µg/L	Annually
Organophosphorus Pesticides	µg/L	Annually
Chlorinated Herbicides	µg/L	Annually
CCR, Title 22 Metals	mg/L	Annually

CCR = California Code of Regulations

CFU = Colony Forming Units

°C = Degrees Centigrade

°F = Degrees Fahrenheit

MBAS = Methylene Blue Active Substances

µg/L = Micrograms per liter

µmhos/cm = Micromhos per centimeter

mg/L = Milligrams per liter

ml = Milliliter

MPN = Most Probable Number

NTU = Nephelometric Turbidity Units

SVOC = Semi-Volatile Organic Compound

TDS = Total Dissolved Solids

VOC = Volatile Organic Compound

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

GENERAL PROVISIONS
FOR MONITORING AND REPORTING

1. **SAMPLING AND ANALYSIS**

- a. All analyses shall be performed in accordance with the current edition(s) of the following documents:
 - i. Standard Methods for the Examination of Water and Wastewater
 - ii. Methods for Chemical Analysis of Water and Wastes, EPA
- b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.
- c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.
- d. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.
- e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.
- f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.
- g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

2. OPERATIONAL REQUIREMENTS

a. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

3. REPORTING

- a. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.
- b. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.
- d. Monitoring reports shall be signed by:
 - i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;
 - ii. In the case of a partnership, by a general partner;
 - iii. In the case of a sole proprietorship, by the proprietor; or

- iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.
- e. Monitoring reports are to include the following:
 - i. Name and telephone number of individual who can answer questions about the report.
 - ii. The Monitoring and Reporting Program Number.
 - iii. WDID Number.
- f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation under Section 13268 of the Water Code.

x:PROVISIONS WDRS

file: general pro mrp