

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2005-0067
FOR
COUNTY OF FRESNO
FOR
CONSTRUCTION AND OPERATION
AMERICAN AVENUE MUNICIPAL SOLID WASTE LANDFILL
FRESNO COUNTY

Compliance with this Monitoring and Reporting Program, with Title 27, California Code of Regulations, Section 20005, et seq. (hereafter Title 27), and with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (27 CCR §20005 et seq. and 40 CFR 258)*, dated April 2000, is ordered by Waste Discharge Requirements Order No. R5-2005-0067.

A. REQUIRED MONITORING REPORTS

<u>Report</u>	<u>Due</u>
1. Groundwater Monitoring (Section D.1)	See Table I
2. Annual Monitoring Summary Report (Section E.5.)	Annually
3. Unsaturated Zone Monitoring (Section D.2)	See Table II
4. Leachate Monitoring (Section D.3)	See Table III
5. Facility Monitoring (Section D.4)	As necessary
6. Response to a Release (Standard Provisions and Reporting Requirements)	As necessary

B. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in Order No. R5-2005-0067 and the Standard Provisions and Reporting Requirements. Reports which do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the

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date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. Data shall also be submitted in a digital format acceptable to the Executive Officer.

Each monitoring report shall include a compliance evaluation summary as specified in E. Reporting Requirements, of this Monitoring and Reporting Program.

Field and laboratory tests shall be reported in each monitoring report. Monthly, quarterly, semiannual, and annual monitoring reports shall be submitted to the Regional Board in accordance with the following schedule for the calendar period in which samples were taken or observations made.

<u>Sampling Frequency</u>	<u>Reporting Frequency</u>	<u>Reporting Periods End</u>	<u>Report Date Due</u>
Monthly	Quarterly	Last Day of Month	by Quarterly Schedule
Quarterly	Quarterly	31 March 30 June 30 September 31 December	31 May 31 August 30 November 28 February
Semiannually	Semiannually	30 June 31 December	31 August 28 February
Annually	Annually	31 December	28 February
Pentannually	Pentannually	31 December	28 February*

*Years ending in 20x8 or 20x3

The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Board covering the previous monitoring year. The annual report shall contain the information specified in E. Reporting Requirements, of this Monitoring and Reporting Program, and a discussion of compliance with the waste discharge requirements and the Water Quality Protection Standard.

The results of **all monitoring** conducted at the site shall reported to the Regional Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

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C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. Water Quality Protection Standard Report

For each waste management unit (Unit), the Water Quality Protection Standard shall consist of all constituents of concern, the concentration limit for each constituent of concern, the point of compliance, and all water quality monitoring points.

The Water Quality Protection Standard for naturally occurring waste constituents consists of the constituents of concern, the concentration limits, and the point of compliance and all monitoring points. The Executive Officer shall review and approve the Water Quality Protection Standard, or any modification thereto, for each monitored medium.

The report shall:

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

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the Water Quality Protection Standard.

2. Constituents of Concern

The constituents of concern include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit. The constituents of concern for all Units at the facility are those listed in Tables I through III for the specified monitored medium, and Table V. The Discharger shall monitor all constituents of

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concern every five years, or more frequently as required in accordance with a Corrective Action Program.

a. **Monitoring Parameters**

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 a Unit. The monitoring parameters for all Units are those listed in Tables I through IV for the specified monitored medium.

3. **Concentration Limits**

For a naturally occurring constituent of concern, the concentration limit for each constituent of concern shall be determined as follows:

- a. By calculation in accordance with a statistical method pursuant to §20415 of Title 27; or
- b. By an alternate statistical method acceptable to the Executive Officer in accordance with §20415 of Title 27.

4. **Point of Compliance**

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

5. **Compliance Period**

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

D. **MONITORING**

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater and the unsaturated zone, in accordance with Detection Monitoring Specification E.1 and E.3 of Waste Discharge Requirements, Order No. R5-2005-0067. Detection monitoring for a new facility or a new Unit shall be

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installed, operational, and one year of monitoring data collected **prior to** the discharge of wastes. All monitoring shall be conducted in accordance with a Sample Collection and Analysis Plan, which includes quality assurance/quality control standards, that is acceptable to the Executive Officer.

All point of compliance monitoring wells established for the detection monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection monitoring program groundwater monitoring wells, unsaturated zone monitoring devices, leachate, and surface water monitoring points shall be sampled and analyzed for monitoring parameters and constituents of concern as indicated and listed in Tables I through III.

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

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

1. Groundwater

The Discharger shall operate and maintain a groundwater detection monitoring system that complies with the applicable provisions of §20415 and §20420 of Title 27 in accordance with a Detection Monitoring Program approved by the Executive Officer. The Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.

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

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

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

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

2. **Unsaturated Zone Monitoring**

The Discharger shall operate and maintain an unsaturated zone detection monitoring system that complies with the applicable provisions of §20415 and §20420 of Title 27 in accordance with a detection monitoring plan approved by the Executive Officer. The Discharger shall collect, preserve, and transport samples in accordance with the quality assurance/quality control standards contained in the approved Sample Collection and Analysis Plan.

Unsaturated zone samples shall be collected from the monitoring devices and background monitoring devices of the approved unsaturated zone monitoring system. The collected samples shall be analyzed for the listed constituents in accordance with the methods and frequency specified in Table II. All monitoring parameters shall be graphed so as to show historical trends at each monitoring point. Samples for the constituents of concern specified in Table II shall be collected and analyzed in accordance with the methods listed in Table V every five years.

The pan lysimeters shall be checked monthly for liquid and monitoring shall also include the total volume of liquid removed from the system. Unsaturated zone monitoring reports shall be included with the corresponding semiannual groundwater monitoring and shall include an evaluation of potential impacts of the facility on the unsaturated zone and compliance with the Water Quality Protection Standard.

3. **Leachate Monitoring**

All Unit leachate collection and removal system sumps shall be inspected monthly for leachate generation. Upon detection of leachate in a previously dry leachate collection and removal system, leachate shall be sampled **immediately** and analyzed for the constituents listed in Table III. Leachate shall then be sampled

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and analyzed annually during the fourth quarter thereafter, with a retest during the following second quarter if constituents are detected that have not been previously detected. Leachate samples shall be collected and analyzed for the listed constituents in accordance with the methods and frequency specified in Table III. The constituents of concern list shall include all constituents listed in Table V. The quantity of leachate pumped from each sump shall be measured and reported monthly as Leachate Flow Rate (in gallons).

Leachate that seeps to the surface from the Unit shall be sampled and analyzed for the constituents listed in Table III upon detection. The quantity of leachate shall be *estimated* and reported as Leachate Flow Rate (in gallons/day).

4. Facility Monitoring

a. Facility Inspection

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall assess damage to the drainage control system, groundwater monitoring equipment (including wells, etc.), and shall include the Standard Observations contained in section E.3.f. of this Monitoring and Reporting Program. Any necessary construction, maintenance, or repairs shall be completed by **31 October**. By **15 November** of each year, the Discharger shall submit an annual report describing the results of the inspection and the repair measures implemented, including photographs of the problem and the repairs.

b. Storm Events

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage **within 7 days** following *major storm events*. Necessary repairs shall be completed **within 30 days** of the inspection. The Discharger shall report any damage and subsequent repairs within 45 days of completion of the repairs, including photographs of the problem and the repairs.

E. REPORTING REQUIREMENTS

1. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all

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data used to complete the application for this Order. Records shall be maintained throughout the life of the facility including the postclosure period.

Such legible records shall show the following for each sample:

- a. Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;
 - b. Date, time, and manner of sampling;
 - c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;
 - d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
 - e. Calculation of results; and
 - f. Results of analyses, and the MDL and PQL for each analysis.
2. A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report.
3. Each monitoring report shall include a compliance evaluation summary. The summary shall contain at least:
- a. For each monitoring point and background monitoring point addressed by the report, a description of:
 - 1) The time of water level measurement;
 - 2) The type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;
 - 3) The method of purging (the pumping rate; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; the calibration of the field equipment; results of the pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water) to remove all portions of the water that was in the well bore while the sample was being taken;

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- 4) The type of pump - or other device - used for sampling, if different than the pump or device used for purging; and
 - 5) A statement that the sampling procedure was conducted in accordance with the approved Sampling and Analysis Plan.
- b. A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.
 - c. For each groundwater body, a description and graphical presentation of the gradient and direction of groundwater flow under/around the Unit, and the groundwater flow rate, based upon water level elevations taken prior to the collection of the water quality data submitted in the report.
 - d. Laboratory statements of results of all analyses evaluating compliance with requirements.
 - e. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.
 - f. A summary and certification of completion of all **Standard Observations** for the Unit(s), for the perimeter of the Unit, and for the receiving waters. The Standard Observations shall include:
 - 1) For the Unit:
 - a) Evidence of ponded water at any point on the facility (show affected area on map);
 - b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and
 - c) Evidence of erosion and/or of day-lighted refuse.
 - 2) Along the perimeter of the Unit:
 - a) Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate (show affected area on map);
 - b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and
 - c) Evidence of erosion and/or of day-lighted refuse.

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- d. A map showing the area and elevations in which filling has been completed during the previous calendar year and a comparison to final closure design contours.
- e. A written summary of the monitoring results, indicating any changes made or observed since the previous annual report.
- f. An evaluation of the effectiveness of the leachate monitoring/control facilities.

The Discharger shall implement the above monitoring program on the effective date of this Program.

Ordered by: Thomas R Pinkos
THOMAS R. PINKOS, Executive Officer

29 April 2005

(Date)

DEE:dee/rac

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TABLE I
GROUNDWATER DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Groundwater Elevation	Ft. & hundredths, M.S.L.	Quarterly
Temperature	°C	Semiannual
Electrical Conductivity	µmhos/cm	Semiannual
pH	pH units	Semiannual
Turbidity	Turbidity units	Semiannual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semiannual
Chloride	mg/L	Semiannual
Carbonate	mg/L	Semiannual
Bicarbonate	mg/L	Semiannual
Nitrate - Nitrogen	mg/L	Semiannual
Sulfate	mg/L	Semiannual
Calcium	mg/L	Semiannual
Magnesium	mg/L	Semiannual
Potassium	mg/L	Semiannual
Sodium	mg/L	Semiannual
Volatile Organic Compounds (USEPA Method 8260, see Table IV)	µg/L	Semiannual
Constituents of Concern (see Table V)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	5 years

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TABLE II

UNSATURATED ZONE DETECTION MONITORING PROGRAM

PAN LYSIMETERS (or other vadose zone monitoring device)

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Electrical Conductivity	µmhos/cm	Semiannual
pH	pH units	Semiannual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semiannual
Chloride	mg/L	Semiannual
Carbonate	mg/L	Semiannual
Bicarbonate	mg/L	Semiannual
Nitrate - Nitrogen	mg/L	Semiannual
Sulfate	mg/L	Semiannual
Calcium	mg/L	Semiannual
Magnesium	mg/L	Semiannual
Potassium	mg/L	Semiannual
Sodium	mg/L	Semiannual
Volatile Organic Compounds (USEPA Method 8260B, see Table IV)	µg/L	Semiannual
Constituents of Concern (see Table V)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	5 years

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TABLE III
LEACHATE DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Total Flow	Gallons	Monthly
Flow Rate	Gallons/Day	Monthly
Electrical Conductivity	μ mhos/cm	Monthly
pH	pH units	Monthly
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Annually
Chloride	mg/L	Annually
Carbonate	mg/L	Annually
Bicarbonate	mg/L	Annually
Nitrate - Nitrogen	mg/L	Annually
Sulfate	mg/L	Annually
Calcium	mg/L	Annually
Magnesium	mg/L	Annually
Potassium	mg/L	Annually
Sodium	mg/L	Annually
Volatile Organic Compounds (USEPA Method 8260B, see Table IV)	μ g/L	Annually
Constituents of Concern (see Table V)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	μ g/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C)	μ g/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8151A)	μ g/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	μ g/L	5 years

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TABLE IV**MONITORING PARAMETERS FOR DETECTION MONITORING****Surrogates for Metallic Constituents:**

pH
Total Dissolved Solids
Electrical Conductivity
Chloride
Sulfate
Nitrate nitrogen

Constituents included in VOC:**USEPA Method 8260B**

Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans-1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC-12)
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1,1 -Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
2-Hexanone (Methyl butyl ketone)
Hexachlorobutadiene

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TABLE IV**MONITORING PARAMETERS FOR DETECTION MONITORING****Continued**

Hexachloroethane
Methyl bromide (Bromomethene)
Methyl chloride (Chloromethane)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Methyl ethyl ketone (MEK: 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether
4-Methyl-2-pentanone (Methyl isobutylketone)
Naphthalene
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane (Methylchloroform)
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes

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TABLE V

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Inorganics (dissolved):

USEPA Method

Aluminum	6010
Antimony	7041
Barium	6010
Beryllium	6010
Cadmium	7131A
Chromium	6010
Cobalt	6010
Copper	6010
Silver	6010
Tin	6010
Vanadium	6010
Zinc	6010
Iron	6010
Manganese	6010
Arsenic	7062
Lead	7421
Mercury	7470A
Nickel	7521
Selenium	7742
Thallium	7841
Cyanide	9010B
Sulfide	9030B

Volatile Organic Compounds:

USEPA Method 8260

Acetone
 Acetonitrile (Methyl cyanide)
 Acrolein
 Acrylonitrile
 Allyl chloride (3-Chloropropene)
 Benzene
 Bromochloromethane (Chlorobromomethane)
 Bromodichloromethane (Dibromochloromethane)
 Bromoform (Tribromomethane)
 Carbon disulfide
 Carbon tetrachloride
 Chlorobenzene
 Chloroethane (Ethyl chloride)
 Chloroform (Trichloromethane)
 Chloroprene
 Dibromochloromethane (Chlorodibromomethane)

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TABLE V

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

1,2-Dibromo-3-chloropropane (DBCP)
 1,2-Dibromoethane (Ethylene dibromide; EDB)
 o-Dichlorobenzene (1,2-Dichlorobenzene)
 m-Dichlorobenzene (1,3-Dichlorobenzene)
 p-Dichlorobenzene (1,4-Dichlorobenzene)
 trans- 1,4-Dichloro-2-butene
 Dichlorodifluoromethane (CFC 12)
 1,1 -Dichloroethane (Ethylidene chloride)
 1,2-Dichloroethane (Ethylene dichloride)
 1,1 -Dichloroethylene (1, 1-Dichloroethene; Vinylidene chloride)
 cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
 trans- 1,2-Dichloroethylene (trans- 1,2-Dichloroethene)
 1,2-Dichloropropane (Propylene dichloride)
 1,3-Dichloropropane (Trimethylene dichloride)
 2,2-Dichloropropane (Isopropylidene chloride)
 1,1 -Dichloropropene
 cis- 1,3-Dichloropropene
 trans- 1,3-Dichloropropene
 Di-isopropylether (DIPE)
 Ethanol
 Ethyltertiary butyl ether
 Ethylbenzene
 Ethyl methacrylate
 Hexachlorobutadiene
 Hexachloroethane
 2-Hexanone (Methyl butyl ketone)
 Isobutyl alcohol
 Methacrylonitrile
 Methyl bromide (Bromomethane)
 Methyl chloride (Chloromethane)
 Methyl ethyl ketone (MEK; 2-Butanone)
 Methyl iodide (Iodomethane)
 Methyl t-butyl ether
 Methyl methacrylate
 4-Methyl-2-pentanone (Methyl isobutyl ketone)
 Methylene bromide (Dibromomethane)
 Methylene chloride (Dichloromethane)
 Naphthalene
 Propionitrile (Ethyl cyanide)
 Styrene
 Tertiary amyl methyl ether
 Tertiary butyl alcohol
 1,1,1,2-Tetrachloroethane
 1,1,2,2-Tetrachloroethane

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 AMERICAN AVENUE MUNICIPAL SOLID WASTE LANDFILL
 FRESNO COUNTY

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TABLE V**CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS****Continued**

Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)
 Toluene
 1,2,4-Trichlorobenzene
 1,1,1 -Trichloroethane, Methylchloroform
 1,1,2-Trichloroethane
 Trichloroethylene (Trichloroethene; TCE)
 Trichlorofluoromethane (CFC- 11)
 1,2,3-Trichloropropane
 Vinyl acetate
 Vinyl chloride (Chloroethene)
 Xylene (total)

Semi-Volatile Organic Compounds:**USEPA Method 8270 - base, neutral, & acid extractables**

Acenaphthene
 Acenaphthylene
 Acetophenone
 2-Acetylaminofluorene (2-AAF)
 Aldrin
 4-Aminobiphenyl
 Anthracene
 Benzo[a]anthracene (Benzanthracene)
 Benzo[b]fluoranthene
 Benzo[k]fluoranthene
 Benzo[g,h,i]perylene
 Benzo[a]pyrene
 Benzyl alcohol
 Bis(2-ethylhexyl) phthalate
 alpha-BHC
 beta-BHC
 delta-BHC
 gamma-BHC (Lindane)
 Bis(2-chloroethoxy)methane
 Bis(2-chloroethyl) ether (Dichloroethyl ether)
 Bis(2-chloro-1-methylethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
 4-Bromophenyl phenyl ether
 Butyl benzyl phthalate (Benzyl butyl phthalate)
 Chlordane
 p-Chloroaniline
 Chlorobenzilate
 p-Chloro-m-cresol (4-Chloro-3-methylphenol)
 2-Chloronaphthalene

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TABLE V**CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS****Continued**

2-Chlorophenol
4-Chlorophenyl phenyl ether
Chrysene
o-Cresol (2-methylphenol)
m-Cresol (3-methylphenol)
p-Cresol (4-methylphenol)
4,4'-DDD
4,4'-DDE
4,4'-DDT
Diallate
Dibenz[a,h]anthracene
Dibenzofuran
Di-n-butyl phthalate
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Dieldrin
Diethyl phthalate
p-(Dimethylamino)azobenzene
7,12-Dimethylbenz[a]anthracene
3,3'-Dimethylbenzidine
2,4-Dimethylphenol (m-Xylenol)
Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Ethyl methanesulfonate
Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexachloropropene

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TABLE V**CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS****Continued**

Indeno(1,2,3-c,d)pyrene
Isodrin
Isophorone
Isosafrole
Kepone
Methapyrilene
Methoxychlor
3-Methylcholanthrene
Methyl methanesulfonate
2-Methylnaphthalene
1,4-Naphthoquinone
1-Naphthylamine
2-Naphthylamine
o-Nitroaniline (2-Nitroaniline)
m-Nitroaniline (3-Nitroaniline)
p-Nitroaniline (4-Nitroaniline)
Nitrobenzene
o-Nitrophenol (2-Nitrophenol)
p-Nitrophenol (4-Nitrophenol)
N-Nitrosodi-n-butylamine (Di-n-butylnitrosamine)
N-Nitrosodiethylamine (Diethylnitrosamine)
N-Nitrosodimethylamine (Dimethylnitrosamine)
N-Nitrosodiphenylamine (Diphenylnitrosamine)
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine)
N-Nitrosomethylethylamine (Methylethylnitrosamine)
N-Nitrosopiperidine
N-Nitrosopyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
p-Phenylenediamine
Polychlorinated biphenyls (PCBs; Aroclors)
Pronamide
Pyrene
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
Toxaphene

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TABLE V**CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS****Continued**

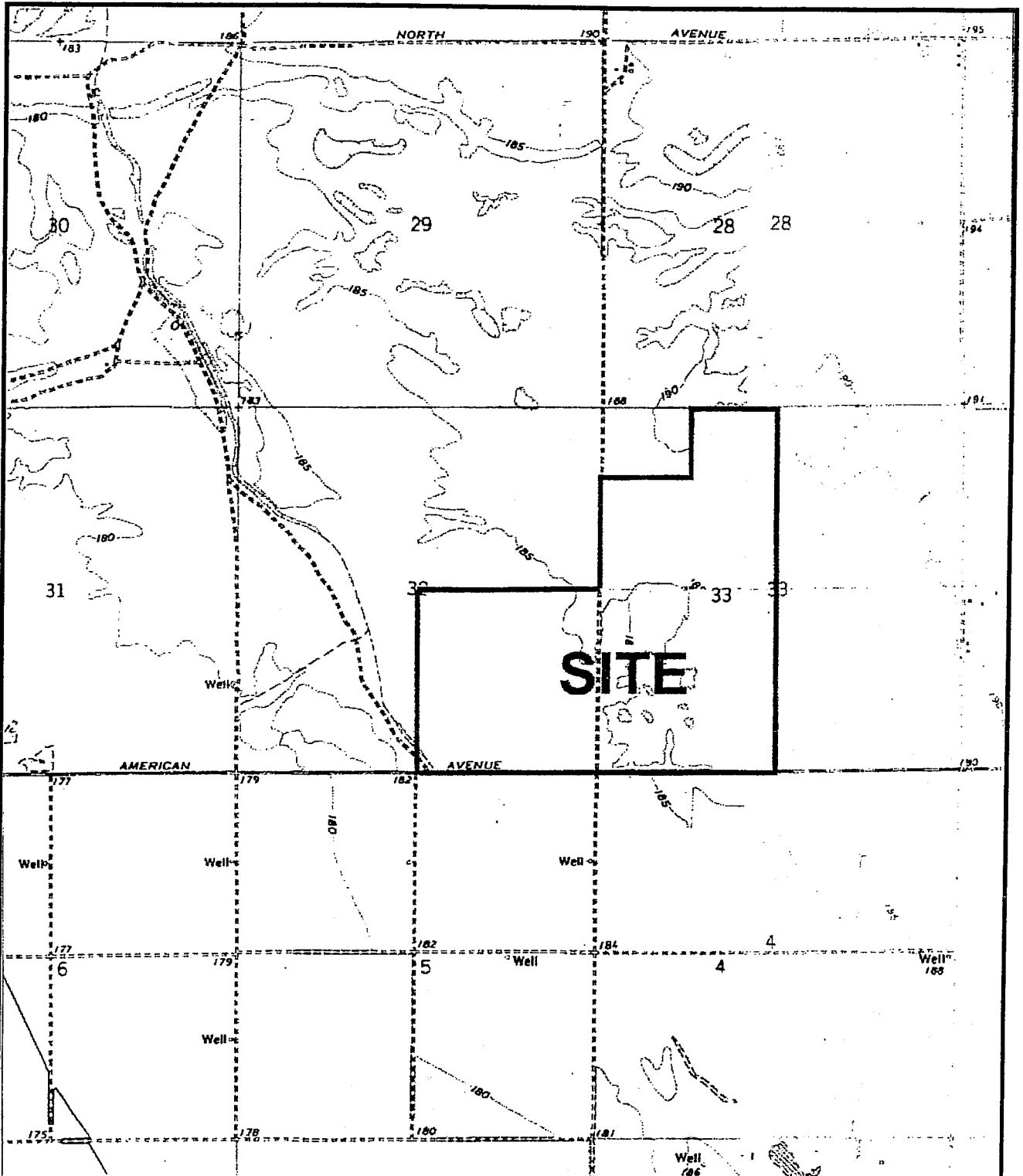
sym-Trinitrobenzene
2,4,5-Trichlorophenol
0,0,0-Triethyl phosphorothioate

Chlorophenoxy Herbicides:**USEPA Method 8151A**

2,4-D (2,4-Dichlorophenoxyacetic acid)
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)

Organophosphorus Compounds:**USEPA Method 8141A**

Atrazine
Chlorpyrifos
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
Diazinon
Dimethoate
Disulfoton
Ethion
Methyl parathion (Parathion methyl)
Parathion
Phorate
Simazine



SITE

ATTACHMENT A

ORDER NO. R5-2005-0067
WASTE DISCHARGE REQUIREMENTS
FOR COUNTY OF FRESNO
AMERICAN AVENUE MUNICIPAL SOLID WASTE LANDFILL
FRESNO COUNTY



Approximate Scale: 1" = 2,200'

Sections 32 and 33, T14S, R17E, MDB&M

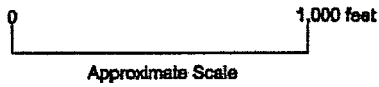
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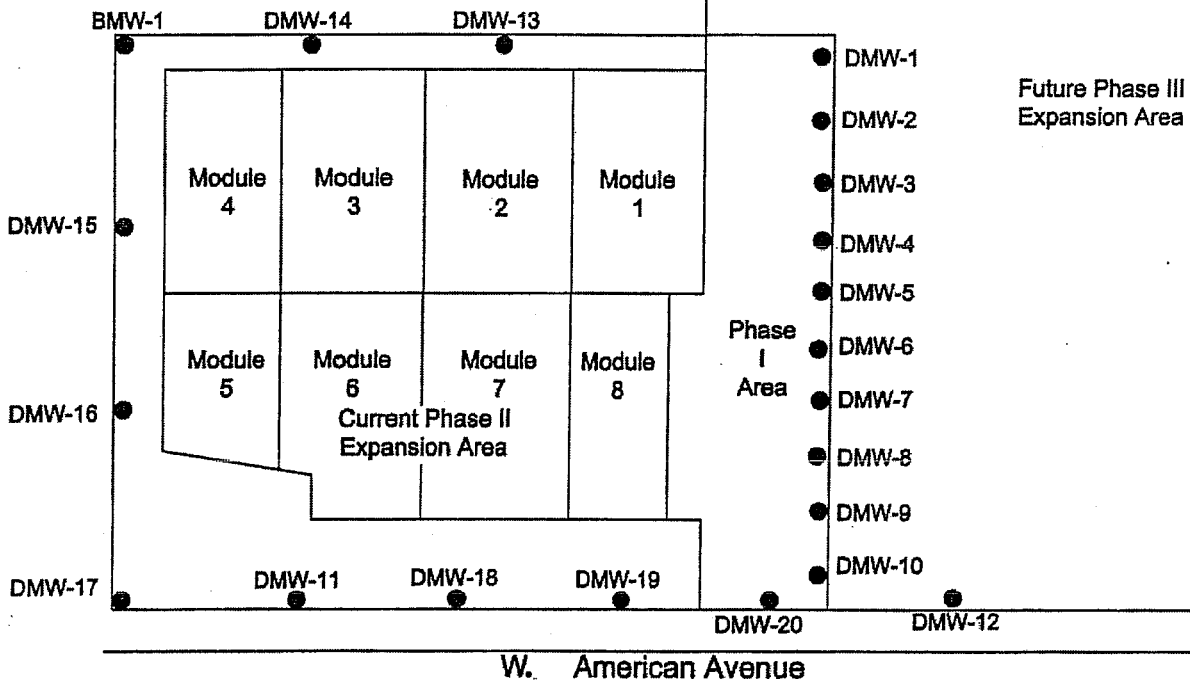


Explanation:

- DMW-1 = Detection Monitoring Well
- BMW-1 = Background Monitoring Well



BMW-2



ATTACHMENT B

ORDER NO. R5-2005-0067
 WASTE DISCHARGE REQUIREMENTS
 FOR COUNTY OF FRESNO
 AMERICAN AVENUE MUNICIPAL SOLID WASTE LANDFILL
 FRESNO COUNTY

Item	Description	Quantity	Unit	Price
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INFORMATION SHEET

ORDER NO. R5-2005-0067
WASTE DISCHARGE REQUIREMENTS
COUNTY OF FRESNO
FOR OPERATION AND CONSTRUCTION
AMERICAN AVENUE MUNICIPAL SOLID WASTE LANDFILL
FRESNO COUNTY

The County of Fresno (hereafter Discharger) owns and operates a municipal solid waste landfill approximately five miles southwest of the City of Kerman. The 440-acre waste management facility consists of an unlined waste management unit covering 30 acres (Phase I) and a 160-acre composite-lined waste management unit (Phase II). The Discharger proposes to expand the waste management facility by constructing Phase III (250 acres) upon completion of Phase II.

The facility is situated in a topographically flat region of the San Joaquin Valley. Soils underlying the site are interbedded sands, silty-sands, sandy-silts, and silts. In-situ soil permeabilities are reported to be in the range of 1×10^{-3} and 1×10^{-5} cm/s. Groundwater is found below 100 feet in depth. The groundwater gradient in the area of the site is about 2.5 feet in 1,000 feet toward the southeast. The quality of underlying groundwater is highly variable with electrical conductivity ranging from 350 to 940 umhos/cm.

The Discharger proposes to clean-close the existing inactive unlined waste management unit (Phase II) by excavating and sorting solid waste from soils within the unlined cell, as a means of mitigating known landfill releases and to provide additional soil needs for landfill operations. Finer materials that pass through a screening process will be used as daily cover material on the landfill's active face. Objects that do not pass the screening process will be discharged into a composite-lined landfill cell. Excavation of the unlined unit will continue until the entire unlined waste cell is removed. The Discharger proposes to begin constructing a composite liner system in the place of the former unlined waste management unit once the unlined unit has been clean-closed, which will be contiguous with existing Phase II and proposed Phase III.

The Discharger submitted a landfill liner design performance report for the proposed Phase III waste management unit to demonstrate that the proposed engineered alternative design would meet the performance standard contained in Section 20310(c) of Title 27 for a Class III landfill. The demonstration utilized a model to predict the performance of the proposed liner design and the fate and transport of a release of waste constituents from Phase III. To ensure proper installation of the engineered alternative landfill liner system, the Discharger has agreed to perform an electronic leak detection survey (ELDS) over the entire base of the liner system subsequent to placement of the operations layer on the liner and leachate collection and removal system to detect and repair any liner defects prior to placing waste. In addition to performing the ELDS, the County will place select waste over the operations layer to reduce the potential damage to the base liner during initial refuse filling operations. Based on the results of the model showing that the engineered alternative liner design would contain the wastes discharged to the Unit, and the design and construction features of the engineered alternative liner system, the Regional Board finds that the engineered alternative liner meets the performance standard contained in Title 27. The Discharger has also demonstrated that the proposed liner system meets the approval criteria set forth in Section 20080(b) of Title 27 for engineered alternative designs.

1. The Contractor shall provide all materials, labor, and services necessary to complete the work in accordance with the specifications and drawings. The Contractor shall be responsible for obtaining all necessary permits and licenses for the work.

2. The Contractor shall maintain a clean and safe work area at all times. All debris and materials shall be removed from the site daily. The Contractor shall be responsible for protecting existing structures and utilities on the site.

3. The Contractor shall provide a detailed schedule of work and progress reports to the Client. The Contractor shall be responsible for completing the work within the specified time frame.

4. The Contractor shall provide a list of all subcontractors and vendors used in the project. The Contractor shall be responsible for the work of all subcontractors and vendors.

5. The Contractor shall provide a warranty for the work performed. The warranty shall cover the materials and labor for a period of one year from the date of completion of the work.

6. The Contractor shall be responsible for obtaining all necessary insurance for the project. The Contractor shall provide proof of insurance to the Client.

7. The Contractor shall be responsible for the safety of all workers on the site. The Contractor shall provide safety training and equipment for all workers.

8. The Contractor shall be responsible for the disposal of all hazardous materials. The Contractor shall provide a plan for the disposal of hazardous materials.

9. The Contractor shall be responsible for the protection of the environment. The Contractor shall take all necessary measures to prevent pollution and environmental damage.

10. The Contractor shall be responsible for the quality of the work. The Contractor shall provide a quality control plan and shall be responsible for inspecting the work at all stages of the project.

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COUNTY OF FRESNO
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AMERICAN AVENUE MUNICIPAL SOLID WASTE LANDFILL
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The Discharger proposes to accept treated wood waste at the American Avenue Landfill. Existing law regulates the control of hazardous waste, but exempts from the hazardous waste control laws, wood waste that is exempt from regulation under the federal Resource Conservation and Recovery Act of 1976, as amended (RCRA), if the wood waste is disposed of in a municipal landfill that meets certain requirements imposed pursuant to the Porter-Cologne Water Quality Control Act for the classification of disposal sites, and the landfill meets other specified requirements outlined in Sections 25143.1.5, 25150.7, and 25150.8 of the Health and Safety Code. The Discharger has indicated that all treated wood waste accepted at the American Avenue Landfill will be handled and disposed of in accordance with the provisions outlined in Sections 25143.1.5, 25150.7, and 25150.8 of the Health and Safety Code. The American Avenue Landfill appears to meet the necessary requirements imposed pursuant to the Porter-Cologne Water Quality Control Act. This order therefore allows the disposal of treated wood waste in accordance with the conditions imposed pursuant to the Health and Safety Code.

Groundwater quality is monitored by 15 monitoring wells located near the facility's point of compliance. This order requires the installation of additional monitoring wells to bring the existing groundwater monitoring system into compliance with Title 27 regulations as the construction of proposed Phase III progresses.

Volatile organic compounds were first detected in groundwater when the detection monitoring wells were installed and continue to be detected sporadically in the detection monitoring wells at concentrations below primary water quality standards. The Discharger is currently conducting evaluation monitoring in accordance with Cleanup and Abatement Order No. 98-702. However, the final evaluation monitoring report has not been submitted to date. This order rescinds Order No. 98-702 and requires timely completion of the evaluation monitoring program and implementation of a feasibility study for corrective action.

The action to update WDRs for this facility is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), in accordance with 14 CCR, Section 15301.

DEE:dee/rac:4/29/2005

