

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2009-0046

WASTE DISCHARGE REQUIREMENTS
FOR
CHICO REDEVELOPMENT AGENCY
FOR
POST-CLOSURE MAINTENANCE OF
HUMBOLDT ROAD BURN DUMP OPERATIONAL UNIT
BUTTE COUNTY

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

1. Waste Discharge Requirements (WDR) Order No. R5-2004-0088, adopted by the Central Valley Water Board on 9 July 2004, prescribes requirements for Humboldt Road Burn Dump Operational Unit (Unit).
2. Chico Redevelopment Agency (hereafter Discharger), owns and operates the Unit on part of Assessor's Parcel Number (APN) 018-500-015 (formerly APN 011-030-015).
3. The Unit is located along Humboldt Road, approximately two miles east of the intersection of State Routes 32 and 99 in Chico, in Section 29, T22N, R2E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order. The Unit consists of one landfill covering about 9 acres as shown in Attachment B, which is incorporated herein and made part of this Order.
4. In December 2006, the Unit was closed in accordance with the applicable sections of Title 27, California Code of Regulations (CCR). The purpose of this Order is to rescind WDR Order No. R5-2004-0088 and prescribe post-closure maintenance requirements for the Unit.

WASTE DESCRIPTION AND UNIT CLOSURE

5. The Unit contains approximately 310,000 cubic yards of compacted Humboldt Road Burn Dump (HRBD) waste from the Unit and waste from adjacent land, consolidated in the Unit. These wastes include broken glass, bottles, rusted metal, concrete rubble, rocks, soil, and burn ash with elevated concentrations of heavy metals. Lead is the predominant waste constituent of concern. Laboratory analysis of samples collected from waste of the adjacent parcels indicates that some heavy metal concentrations exceed hazardous waste criteria. However, extraction tests show that the wastes in the Unit are not soluble to the extent that they pose a threat to groundwater. The limited mobility and the natural geologic formations are considered adequate for protecting groundwater quality; however, constituents in the waste could threaten beneficial uses and water quality of surface water during the post-closure maintenance period if not adequately contained.

6. In October 2004, the Discharger submitted a Remedial Design Report for the Unit. Construction activities occurred over two years. From June to September 2005, approximately 65,000 cubic yards of identified burn ash and waste debris were removed from APN 002-180-087, APN 002-180-088, APN 002-180-089, APN 002-180-095, APN 011-030-015, and APN 011-030-137, transported, and consolidated with existing Unit waste. The compacted waste was covered with 12 inches of sand and a 40-mil double-sided textured linear low density polyethylene (LLDPE) synthetic liner. A passive gas extraction system, leachate collection and removal system (LCRS), and temporary storm water diversion structures were installed to prevent potential water quality impacts.
7. In June 2006, construction activities resumed. Following inspection and testing of the LLDPE liner, a geo-composite drainage layer was installed followed by 24 inches of compacted clean soil planted with native grasses. Other activities included; improving the three passive gas vents, constructing a permanent storm water drainage system, deepening the LRCS monitoring sump, and installing an access road along the west and northwest Unit perimeter. Two permanent survey monuments were installed, one at the peak and the other at the southwest Unit corner. In December 2006, Unit construction was complete.
8. On 19 March 2007, Central Valley Water Board staff approved the Unit *Construction Quality Assurance Report*. In April 2007, the Discharger constructed a permanent fence around the Unit and installed an additional monitoring well (MW-4) to complete the existing groundwater detection monitoring system (MW-1 and MW-2).
9. The Discharger is required to maintain financial assurance mechanisms for corrective action and post-closure maintenance of the Unit. On 29 August 2008, Discharger and Central Valley Water Board staff signed a Pledge of Revenue agreement in the amount of eight-hundred thousand dollars (\$800,000) for 30-years of Unit corrective action and post-closure maintenance. The Pledge of Revenue is a financial assurance mechanism that complies with the requirements of Title 27 CCR.
10. At the request of the Discharger, on 6 January 2009, Butte County recorded a *Covenant to Restrict Use of Property, Environmental Restriction* (Deed Restriction) for APN 018-500-015. The Deed Restriction is a requirement of WDR Order No. R5-2004-0088 which runs with the land, identifies the exact location of the Unit, and restricts activities that may adversely impact the integrity or performance of the Unit.

SITE DESCRIPTION

11. The Unit is located along the westernmost slope of the Sierra Nevada foothills. It is underlain by highly cemented deposits of an unnamed "fanglomerate" present throughout a wide area along the foothills east of Chico. In general, the fanglomerate contains only occasional stringers or lenses of granular material within a very low permeability matrix of volcanic ash and other related materials. Groundwater yields within these lenses tend to be small. Deeper granular and volcanic units of the underlying Tuscan Formation, however, form more significant groundwater aquifers.

12. The measured hydraulic conductivity of the native soils underlying the Unit ranges between 0.5×10^{-4} cm/sec and 1.5×10^{-4} cm/sec as measured during aquifer testing of MW-1 and MW-2. Tests on these wells indicate the water bearing zones are of limited extent and volume.
13. The closest Holocene fault, the Cleveland Hill Fault, is approximately 27 miles to the south-southeast. Recorded magnitudes of seismic events along these faults range between 5.7 and 6.4 on the Richter scale. The maximum credible acceleration for the site is 0.45 to 0.60 g.
14. Land uses within 1,000 feet of the Unit are zoned residential, commercial, and open space. Humboldt Road Private Properties Operational Unit, another closed HRBD landfill, is immediately east of the Unit. A junior high school is located less than a half-mile west of the Unit.
15. The Unit is located within the City of Chico, which receives an average of 26.4 inches of precipitation per year. The estimated pan evaporation rate for the Sacramento Valley, including the western half of Butte County, is 64 inches per year. The average evapotranspiration rate for pasture and grassland is approximately 52 inches per year.
16. The 100-year, 24-hour precipitation event for the land is estimated to be 5.5 inches. The maximum 100-year annual precipitation is over 50 inches per year.
17. The estimated 100-year flow in the reach of Dead Horse Slough that passes on the north side of the Unit is 400 cubic feet per second (cfs), based on the Federal Emergency Management Agency's 100-year peak flow calculations. Based on an estimate of the slope and cross section of Dead Horse Slough below the Unit, the water surface will be approximately 50 feet wide at a flow of 400 cfs. The toe of the Unit is approximately 100 feet from Dead Horse Slough.
18. Based on information provided in the *June 2001 Remedial Investigation Report, Geology and Groundwater, HRBD*, four domestic water supply wells are within ½ mile of the Unit, with a well on APN 002-180-083, which has been inactive for many years, being the closest.

SURFACE AND GROUNDWATER CONDITIONS

19. The *Water Quality Control Plan for the Sacramento River and the San Joaquin River Basin, Fourth Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
20. Surface drainage is toward Dead Horse Slough, an ephemeral drainage that is tributary to Little Chico Creek, in the Butte Basin Hydrologic Area (520.40) of the Sacramento Hydrologic Basin.
21. Consistent with the Basin Plan and applicable state and federal law, the beneficial uses of Dead Horse Slough are identified based on the designated uses for the Sacramento

River, to which Dead Horse Slough is tributary, via Little Chico Creek, and include domestic and municipal supply, agricultural supply, industrial service supply, water contact and non-contact recreation, warm and cold freshwater habitat, wildlife habitat, groundwater recharge, and freshwater replenishment.

22. Shallow groundwater occurs in discontinuous water bearing zones in the site bedrock. Seasonal recharge from Dead Horse Slough appears to affect the depth to water measured in monitoring wells constructed adjacent to the Unit.
23. The designated beneficial uses of groundwater, as specified in the Basin Plan, are domestic and municipal supply, agricultural supply, industrial service supply, and industrial process supply.

GROUNDWATER MONITORING

24. Three monitoring wells (MW-1, MW-2, and MW-4), shown in Attachment B, are used to determine groundwater quality adjacent to the Unit. MW-1 and MW-2 were installed in 1992 as part of the HRBD Solid Waste Assessment Test (SWAT). A third boring was drilled 1992 to a depth of 108 feet bgs at the site but groundwater was not encountered and a well was not completed. MW-4 was installed in 2007. Soil boring (SB-3) was also drilled in 2007 but was destroyed because no moisture or lithology with the potential to transmit groundwater was observed. Although very moist sand was encountered at depths below 75 ft bgs while drilling SB-4, monitoring well (MW-4) has been dry since construction. The monitoring well construction details are described in the following table. Monitoring of the wells satisfies the requirements for a detection monitoring program contained in Title 27 CCR Division 2. Three additional wells have been completed on the property to the east. Only one of these wells (MW-5) encountered groundwater and was screened from 24 ft bgs to 44 ft bgs. Wells MW-6 and MW-7 were drilled to 80 ft bgs and 100 ft bgs but groundwater has not been observed in these wells.

Well ID	Date Completed	Type	Top of Casing Elevation (MSL)	Depth (ft bgs)	Screen Interval (ft bgs)	Depth to Water (ft)
MW-1	05/1992	Monitoring well	266.95	39	23.75 to 38.75	11 to 24
MW-2	05/1992	Monitoring well	254.91	56	35 to 55	30 to 44
SB-3	n/a	Soil Boring	n/a	108	n/a	n/a
MW-4	04/2007	Monitoring well	275.57	100	77 to 92	dry

MSL = Mean Sea Level
 ft bgs = feet below ground surface
 n/a = not applicable

25. The HRBD Remedial Investigation and Remedial Action Plan identified antimony, arsenic, and lead as the metal constituents of concern in the waste material that has been consolidated in the Unit. The same report also identified calcium, sulfate, and nitrate as soluble constituents within the waste material. Concentrations of total dissolved solids, including nitrate and sulfate, in groundwater monitoring wells MW-1 and MW-2 have generally decreased since Unit closure. However, the shallow

groundwater samples have detected total dissolved solids, nitrate, and sulfate at concentrations exceeding Central Valley Water Board Basin Plan objectives for drinking water or agricultural use. No dissolved antimony, arsenic, lead, cyanide, volatile or semi-volatile organic compounds, pesticides, herbicides, or dioxin have been detected in the MW-1 and MW-2 groundwater samples. This Order reduces the analyte list for the detection monitoring program.

26. Leachate is collected near the northwesterly toe of the Unit and directed to a collection sump. Between March and July 2006, 850 gallons of liquid was removed from the leachate sump, transferred to a temporary tank, sampled, and discharged to the City of Chico Water Pollution Control Plant. In November 2006, the collection sump depth was increased from 5 feet to 7 feet 5 inches. Since completion of Unit construction, the sump has contained about 2 feet of liquid and 3 feet of remaining freeboard. This Order specifies the Discharger maintain 2 feet of freeboard in the leachate collection sump.

CEQA AND OTHER CONSIDERATIONS

27. The action to revise waste discharge requirements for this existing Unit is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resources Code Section 21000, et seq., and the CEQA guidelines, in accordance with Title 14 CCR, Section 15301.
28. This Order implements:
 - a. *The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition*; and
 - b. The prescriptive standards and performance goals of Title 27 CCR Division 2, Subdivision 1, Chapters 1 through 7, effective 18 July 1997, and subsequent revisions.
29. Section 13267(b) of the California Water Code provides that: "In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports."
30. The technical reports required by this Order and attached Monitoring and Reporting Program No. R5-2009-0046 is necessary to assure compliance with these waste discharge requirements. The Discharger owns the property where wastes have been discharged and is subject to this Order.

PROCEDURAL REQUIREMENTS

31. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
32. The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written comments.
33. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to this Order.
34. Any person affected by this action of the Central Valley Water Board may petition the State Water Resources Control Board to review the action in accordance with Sections 2050 through 2068, Title 23 CCR. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812, within 30 days of the date of adoption of this Order. Copies of the law and regulations applicable to the filing of a petition are available on the Internet at http://www.waterboards.ca.gov/laws_regulations/ and will be provided on request.

IT IS HEREBY ORDERED, pursuant to Sections 13263 and 13267 of the California Water Code, that Order No. R5-2004-0088 is rescinded, and that Chico Redevelopment Agency, its agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The Unit is closed and all waste disposal activities are therefore prohibited.
2. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.

B. DISCHARGE SPECIFICATIONS

1. The Discharger shall contain the waste within the closed Unit at all times.
2. The discharge shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of nuisance, degradation, contamination, or pollution of groundwater to occur, as indicated by the most appropriate statistical or non-statistical data analysis method and retest method, the Monitoring and Reporting Program, or the Standard Provisions and Reporting Requirements. Since the groundwater occurs in discontinuous lenses that do not appear to be in hydraulic communication, an intra-well test will be conducted to evaluate trends in the monitoring results, such as the Mann-Kendall Test for an Upward Trend.

C. POST-CLOSURE MAINTENANCE SPECIFICATIONS

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.
2. The Discharger shall immediately notify the Central Valley Water Board of any flooding, unpermitted discharge of waste off-site, equipment failure, slope failure, or other change in site conditions, which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.
3. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with this Order.
4. The freeboard (depth to liquid) in the leachate collection sump shall not be less than two feet, except if lesser freeboard does not threaten the integrity of the sump and no overflow of the sump occurs.
5. The Discharger shall maintain a minimum three percent grade across the entire final cover system of the Unit.
6. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control and construction.
7. The Discharger shall maintain assurances of financial responsibility for post-closure maintenance in the amount of the cost estimates in the approved post-closure maintenance plan or in an amount approved by the Central Valley Water Board.

D. PROVISIONS

1. The Discharger shall comply with Monitoring and Reporting Program No. R5-2009-0046, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.
2. The Discharger shall maintain a copy of this Order at the Unit, or at the Discharger's office, and make it available at all times to maintenance personnel, who shall be familiar with its contents, and to regulatory agency personnel.
3. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
4. In the event the Discharger does not comply or will be unable to comply with any prohibition or specification of this Order for any reason, the Discharger shall notify the appropriate Central Valley Water Board office by telephone **as soon as** it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within two weeks**. The written notification shall state the nature, time, and cause of noncompliance, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.

5. The Discharger shall comply with the applicable sections of Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (Title 27 CCR Section 20005 et seq. and 40 CFR 258 et seq.), dated April 2000, which are hereby incorporated into this Order.
6. All reports and transmittal letters shall be signed by persons identified below:
 - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
 - c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.
 - d. A duly authorized representative of a person designated in a, b or c above if:
 - 1) The authorization is made in writing by a person described in a, b, or c of this provision;
 - 2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a Unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - 3) The written authorization is submitted to the Central Valley Water Board.
 - e. Any person signing a document under this Section shall make the following certification:

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

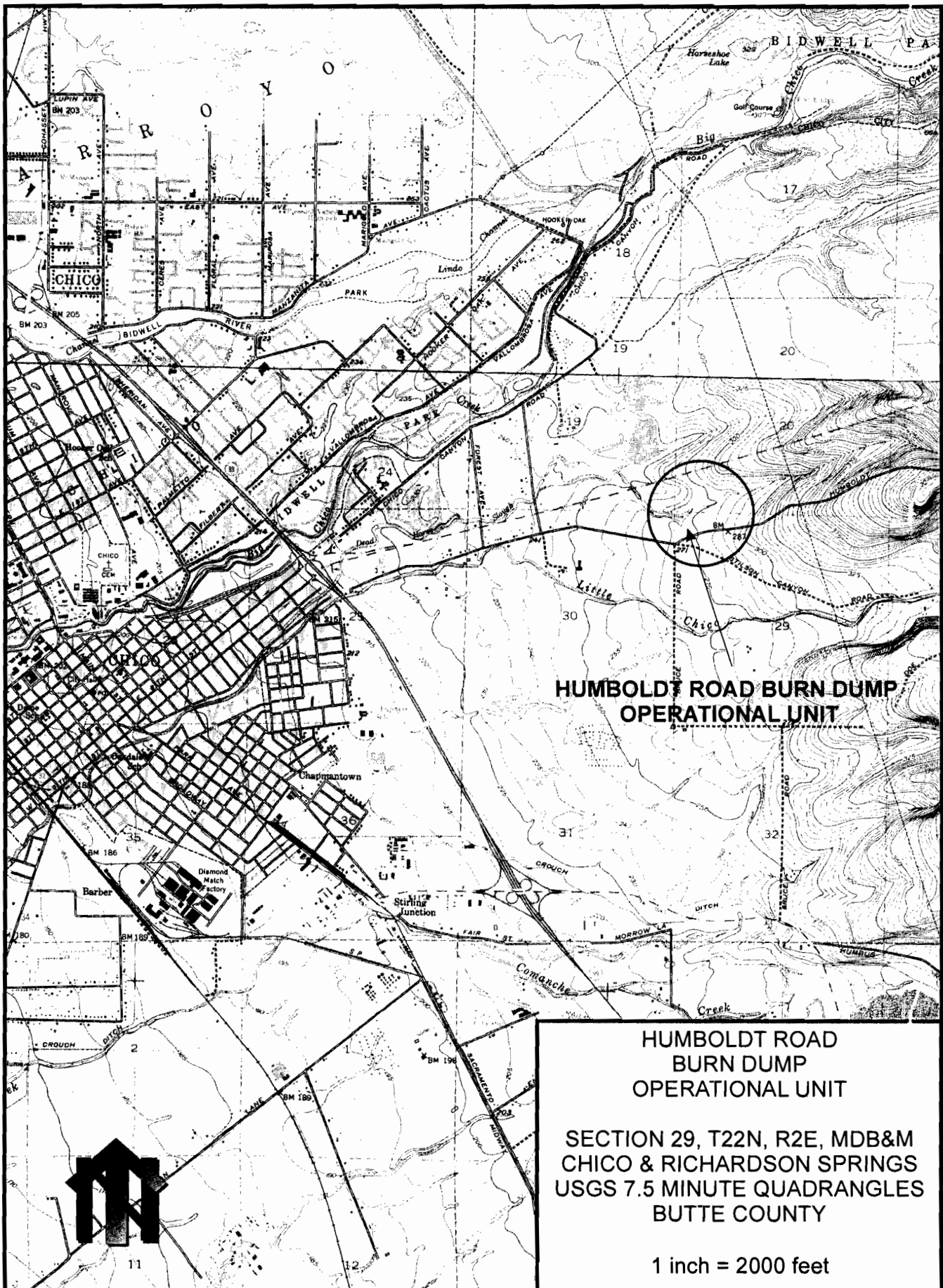
9. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Central Valley Water Board requesting transfer of the Order within 14 days of assuming ownership or operation of this facility. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory requirements contained in Provision F.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer of this Order shall be approved or disapproved by the Central Valley Water Board.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 24 April 2009.

Original signature on file

PAMELA C. CREEDON, Executive Officer

KLC: sae
02/04/2009



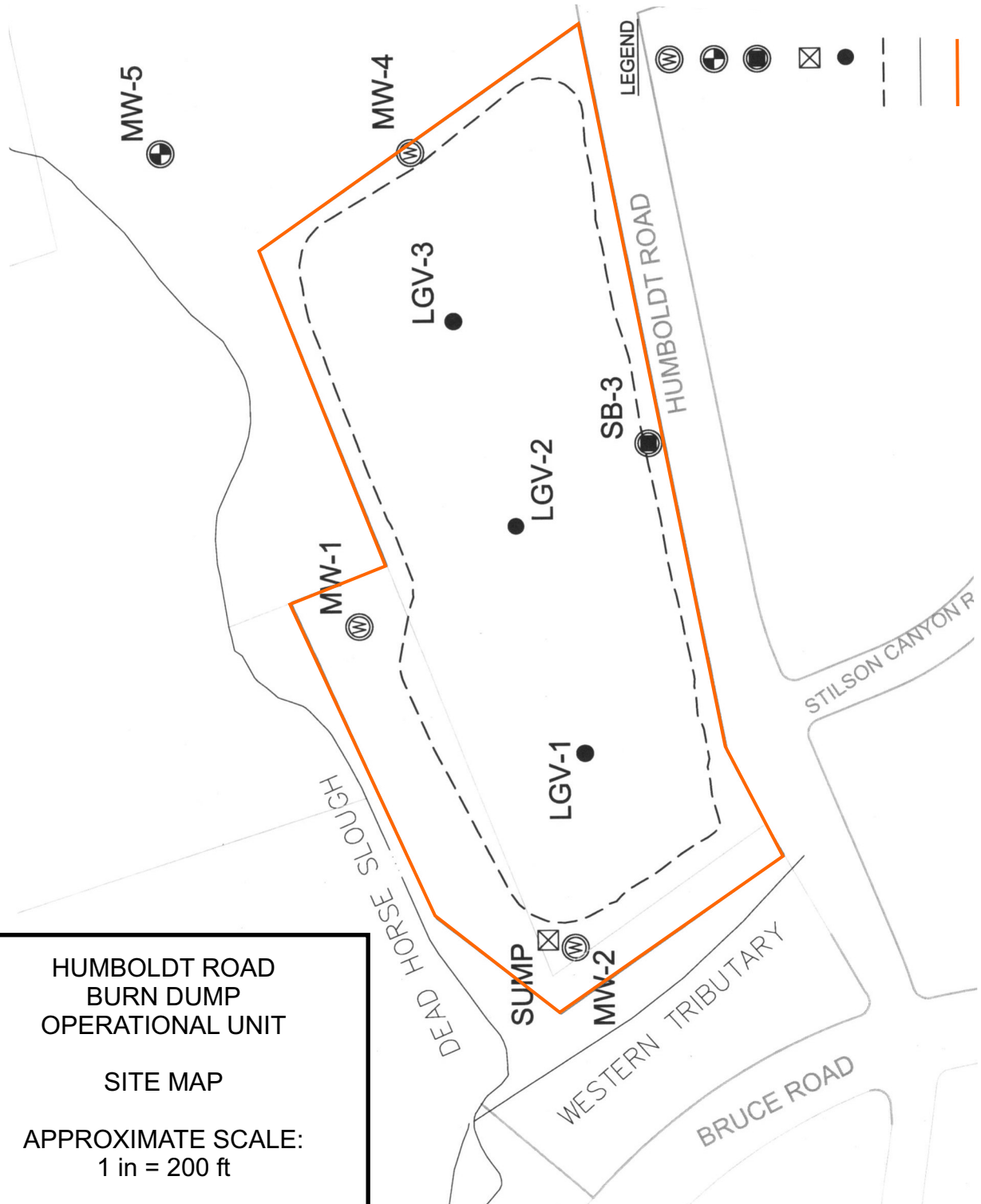
**HUMBOLDT ROAD BURN DUMP
OPERATIONAL UNIT**

**HUMBOLDT ROAD
BURN DUMP
OPERATIONAL UNIT**

SECTION 29, T22N, R2E, MDB&M
CHICO & RICHARDSON SPRINGS
USGS 7.5 MINUTE QUADRANGLES
BUTTE COUNTY

1 inch = 2000 feet





HUMBOLDT ROAD
BURN DUMP
OPERATIONAL UNIT

SITE MAP

APPROXIMATE SCALE:
1 in = 200 ft

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2009-0046

FOR
CHICO REDEVELOPMENT AGENCY
FOR
POST-CLOSURE MAINTENANCE OF
HUMBOLDT ROAD BURN DUMP OPERATIONAL UNIT
BUTTE 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. R5-2009-0046.

A. REQUIRED MONITORING REPORTS

<u>TYPE</u>	<u>DUE</u>
1. Groundwater Monitoring	See Tables I & II
2. Leachate Monitoring	Annual
3. Facility Monitoring	Annual
4. 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 the Standard Provisions and Reporting Requirements. Reports that do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, 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 lack thereof. Data shall also be submitted in a digital format acceptable to the Executive Officer.

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

<u>Sampling Frequency</u>	<u>Reporting Frequency</u>	<u>Reporting Periods End</u>	<u>Report Due Date</u>
Annual	Annual	31 December	31 January

The Discharger shall submit an **Annual Monitoring Summary Report** to the Central Valley Water Board **by 31 January** covering the previous monitoring year. The annual report shall include time-series graphs showing historic and current year Table II monitoring parameters, the information specified in the Standard Provisions and Reporting Requirements, and a discussion of compliance with the waste discharge requirements.

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

C. MONITORING

The Discharger shall comply with the detection monitoring program provisions of Title 27. All monitoring shall be conducted in accordance with the October 2004 Sampling Collection and Analysis Plan for the parameters described in Table I and II, Monitoring and Reporting Program No. R5-2009-0046. Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those that cannot be quantified and/or specifically identified.

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

Three completed wells (MW-1, MW-2, MW-4) are installed to monitor groundwater adjacent to the Unit. The Discharger shall determine and report **annually** 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 **annually** and submitted **annually**.

Samples shall be collected from MW-1, MW-2, MW-4, and analyzed for the monitoring parameters in accordance with the methods and frequency specified in Tables I and II. If no groundwater is observed in any monitoring well, the report shall state such fact.

The monitoring parameters shall also be evaluated in an Annual Monitoring Summary Report that includes a cation/anion balance, and a graphical presentation of the results using a Stiff diagram, a Piper graph, or a Schueller plot.

2. Leachate Monitoring

Leachate, generated from the northwesterly toe of the Unit, flows to a collection sump. The Discharger shall inspect the leachate collection sump **annually** and after *major storm events* and report the depth of liquid. If no leachate is observed, the report shall state such fact. If the vertical depth to liquid (freeboard) in the sump is less than 24 inches, the leachate shall be disposed in accordance with the City of Chico Water Pollution Control Plant requirements.

Any leachate that seeps to the surface of the Unit shall be sampled and analyzed for each monitoring parameter and constituent of concern listed in Tables I and II. The quantity of leachate seeping to the surface shall be estimated and reported as Leachate Flow Rate (in gallons/day). The Discharger shall notify the Executive Officer within 24 hours of observing leachate seeping to the surface of the Unit.

3. Facility Monitoring

a. Standard Observations

Standard Observations shall be recorded during each site visit and shall include those elements identified in Standard Provisions. Each **annual** monitoring report shall include a summary and certification of completion of all Standard Observations. Field logs of standard observations shall also be included in the report.

b. Regular Maintenance Inspections

Unit facilities (i.e. monitoring wells) shall be inspected **annually** to identify the need for maintenance and repairs. Necessary repairs shall be completed within 30 days of each inspection. Field logs of these inspections and documentation of the repairs shall be included in each **annual** monitoring report.

c. After Storm Events

The Discharger shall inspect the Unit and all precipitation, diversion, and drainage facilities for damage within 7 days after each *major storm event*. **A major storm event is one that produces 1 inch or more of precipitation within a 24-hour period.** Areas of erosion or sedimentation observed during the inspection(s) shall be flagged and repaired **within 7 days** of identification. If repairs cannot be completed within the seven-day time frame, the Discharger shall notify the Central Valley Water Board of such and provide a schedule for completing necessary repairs. Findings and repairs implemented as a result of

these inspections shall be included in each **annual** monitoring report. If no inspection was conducted because there was no significant storm event during the Annual period, the report shall state such fact.

d. Site Winterization

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility for the purpose of winterizing the site. The inspection shall identify any damage to the landfill cover, grade, precipitation and drainage controls, access roads, and other facilities. Any necessary construction, maintenance, or repairs shall be conducted in compliance with the approved postclosure maintenance plan and be completed by **31 October** annually.

The Discharger shall document the results of the winterization inspection and any repair measures implemented in the Annual Report due **by 31 January** of each year.

Documentation of the above inspections and any repairs implemented shall include field observations, the location of any damage on the site, photographs of the damage, and location and description of any repairs implemented, including post-repair photographs.

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

Ordered by: Original signature on file
PAMELA C. CREEDON, Executive Officer
24 April 2009
(Date)

KLC: sae
02/04/2009

TABLE 1 - GROUNDWATER DETECTION MONITORING PROGRAM

Parameter Units Frequency

Field Parameters

Groundwater Elevation	Ft. & hundredths, M.S.L.	Annual
Temperature °C	Annual	
Electrical Conductivity	µmhos/cm	Annual
pH	pH units	Annual

Monitoring Parameters

Total Dissolved Solids (TDS)	mg/L	Annual
Chloride	mg/L	Annual
Carbonate	mg/L	Annual
Bicarbonate	mg/L	Annual
Sulfate	mg/L	Annual
Calcium	mg/L	Annual
Magnesium	mg/L	Annual
Nitrate (as N)	mg/L	Annual
Potassium	mg/L	Annual
Sodium	mg/L	Annual
Inorganics (see Table II)	mg/L	Annual

TABLE II - INORGANICS AND APPROVED USEPA ANALYTICAL METHODS

Inorganics (dissolved): USEPA Method

Antimony	7041
Arsenic	7062
Lead	7470

INFORMATION SHEET

ORDER NO. R5-2009-0046
CHICO REDEVELOPMENT AGENCY
FOR POST-CLOSURE MAINTENANCE OF
HUMBOLDT ROAD BURN DUMP OPERATIONAL UNIT
BUTTE COUNTY

The Humboldt Road Burn Dump (HRBD) is a group of fifteen properties in the City of Chico used in the past for waste disposal. The HRBD, as a whole, consists of one primary disposal area located on Assessors Parcel Number (APN) 018-500-015 (formerly APN 011-030-015), which formerly operated as the City of Chico Burn Dump, and fourteen other waste disposal areas on adjacent properties. The primary disposal area operated from the early 1900's until approximately 1965 when the Butte County Neal Road Landfill opened and City of Chico Burn Dump closed as a waste disposal facility. Wastes from the City of Chico and the unincorporated portions of Butte County were historically dumped, burned, and then leveled in a cyclic fashion at the primary disposal area. Approximately 70 of 157 total acres were impacted by waste disposal operations. On 11 December 1997, the California Environmental Protection Agency Site Designation Committee adopted Resolution No. 97-16, pursuant to Health and Safety Code (HSC) section 25260, et seq, *Unified Agency Review of Hazardous Materials Release Sites*, designating the Central Valley Water Board as Administering Agency. Subsequent HRBD site investigation and remediation activities were conducted in accordance with HSC section 25260, et seq.

On 3 June 2003, the Central Valley Water Board Executive Officer issued Cleanup and Abatement Order No. R5-2003-0707, to the parties reasonably identified as responsible for the HRBD waste. Between 2004 and 2006, four separate remediation projects occurred to clean up the HRBD waste. Waste from APN 002-180-083 was removed and transported to Ostrom Road Landfill for disposal and, on 17 November 2005, a No Further Action Determination was issued for the site. Waste from APN 011-780-014 and APN 011-780-018 was removed and transported to the Waste Management Kettleman Hills Facility for disposal. On 22 December 2006, a Certificate of Completion was issued, pursuant to HSC section 25260, for APN 011-780-014 and a No Further Action Determination was issued for APN 011-780-018. Waste from six properties (APN 011-300-016, APN 011-030-136, APN 011-030-138, APN 011-030-139, APN 002-180-084, APN 002-180-086) was removed and consolidated into the 7-acre Humboldt Road Private Properties Operational Unit on APN 011-030-138 (currently known as APN 011-500-138) and, on 10 March 2005 and 16 December 2005, Certificate of Completions were issued pursuant to HSC section 25260. The Central Valley Water Board regulates Humboldt Road Private Properties Operational Unit under separate Waste Discharge Requirements.

In 2005, Chico Redevelopment Agency removed waste from six properties (APN 002-180-087, APN 002-180-088, APN 002-180-089, APN 002-180-095, APN 011-030-137, and APN 011-030-150), consolidated it in the primary disposal area located on APN 011-500-015, and, on 22 December 2005 and 7 February 2006, Certificate of Completions were issued pursuant to HSC section 25260. In December 2006, construction of the consolidated waste disposal was complete. The wastes were capped, from bottom to top, with a 12-inches of sand acting as the gas collection layer, 40-mil double sided textured linear low density polyethylene (LLDPE) synthetic layer, a geo-composite drainage layer, and

24 inches of compacted clean soil for construction of a vegetative erosion resistant layer. A passive landfill gas venting system was installed directly beneath the LLDPE and ventilated at three locations on top of the Unit. Although the wastes contain very little, if any, organic matter and no subsidence or differential settlement was expected, two survey monuments were installed into the cap so that the location and elevation of wastes, containment structures, and monitoring facilities could be determined throughout the post-closure maintenance period. Other completed construction activities include; leachate collection and removal system, surface water drainage conveyance system, access road, permanent fencing, and groundwater monitoring well (MW-4).

Three monitoring wells (MW-1, MW-2, and MW-4) are used to determine groundwater quality adjacent to the Unit. MW-1 and MW-2 were installed in 1992 as part of the HRBD Solid Waste Assessment Test (SWAT). A third boring was drilled 1992 to a depth of 108 feet bgs at the site but groundwater was not encountered and a well was not completed. MW-4 was installed in 2007. Soil boring (SB-3) was also drilled in 2007 but was destroyed because no moisture or lithology with the potential to transmit groundwater was observed. Although very moist sand was encountered at depths below 75 ft bgs while drilling SB-4, monitoring well (MW-4) has been dry since construction. Three additional wells have been completed on the property to the east. Only one of these wells (MW-5) encountered groundwater and was screened from 24 ft bgs to 44 ft bgs. Wells MW-6 and MW-7 were drilled to 80 ft bgs and 100 ft bgs but groundwater has not been observed in these wells. Since the groundwater occurs in discontinuous lenses that do not appear to be in hydraulic communication, the Discharger will conduct an intra-well test to evaluate trends in the monitoring results, such as the Mann-Kendall Test for an Upward Trend.

The HRBD Remedial Investigation and Remedial Action Plan identified antimony, arsenic, and lead as the metal constituents of concern in the waste material that has been consolidated in the Unit. The same report also identified calcium, sulfate, and nitrate as soluble constituents within the waste material. Concentrations of total dissolved solids, including nitrate and sulfate, in groundwater monitoring wells MW-1 and MW-2 have generally decreased since Unit closure. However, the shallow groundwater samples have detected total dissolved solids, nitrate, and sulfate at concentrations exceeding Central Valley Water Board Basin Plan objectives for drinking water or agricultural use. No dissolved antimony, arsenic, lead, cyanide, volatile or semi-volatile organic compounds, pesticides, herbicides, or dioxin have been detected in the MW-1 and MW-2 groundwater samples. Therefore, Chico Redevelopment Agency has requested elimination of these parameters from the detection monitoring program.

Leachate is collected near the northwesterly toe of the Unit and directed to a collection sump. Between March and July 2006, 850 gallons of liquid was removed from the leachate sump, transferred to a temporary tank, sampled, and discharged to the City of Chico Water Pollution Control Plant. In November 2006, the collection sump depth was increased from 5 feet to 7 feet 5 inches. Since completion of Unit construction, the sump has contained about 2 feet of liquid and discharges to the City of Chico Water Pollution Control Plant have not occurred.

On 4 August 2008, Central Valley Water Board staff approved the financial assurance cost estimate for post-closure maintenance of the Unit. On 29 August 2008, the Discharger and

Central Valley Water Board staff signed a Pledge of Revenue agreement, in the amount of eight-hundred thousand dollars (\$800,000), for 30-years of Unit corrective action and post-closure maintenance. The corrective action items include seeding areas of the cover that are lacking vegetation; fertilizing the vegetative cover; replacing cover soil in worn areas of the cover; installing temporary erosion controls; repairing minor damage to the cover geosynthetics; loading and disposing of illegally dumped material on the site; maintaining and conducting minor repairs to the landfill gas vents, LCRS components and monitoring wells; cleaning of the LCRS cleanouts; redeveloping the monitoring wells; cleaning and making minor repairs to the site drainage system and perimeter fence. The Pledge of Revenue is a financial assurance mechanism that complies with the requirements of Title 27 CCR.

On 6 January 2009, the Discharger recorded a Covenant to Restrict Use of Property, Environmental Restriction (Deed Restriction) with Butte County.

These WDRs rescind WDR Order No. R5-2004-0088 and prescribe post-closure maintenance requirements for the Unit.

KLC: sae 02/04/2009