STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. R4-2009-XXXX

REVISED WASTE DISCHARGE REQUIREMENTS
FOR
WASTE DISPOSAL, ASSESSMENT MONITORING PROGRAM, AND CORRECTIVE ACTION PROGRAM

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
(CALABASAS LANDFILL)
(FILE NO. 60-118)

TENTATIVE

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

BACKGROUND

1. The Calabasas Landfill **(Landfill)** is a municipal solid waste **(MSW)**, Class III, landfill located on 505 acres at 5300 Lost Hills Road in an unincorporated area of Los Angeles County (see Figure 1, attached). The Landfill is owned by the County of Los Angeles (County) and operated by the County Sanitation Districts of Los Angeles County (Discharger) under a joint powers agreement (JPA) with the County.

2. The Landfill was operated as a designated waste (Class II) facility from February 14, 1961 through September 14, 1965, as a hazardous waste (Class I) facility through July 31, 1980, and subsequently as a ~~municipal solid waste~~ **MSW** facility. Following is a chronologic history of the Landfill development.

   A. In 1958 the Los Angeles County Regional Planning Commission first issued a land use permit (Zone Exemption Case No. 3349-(5)) for solid waste disposal on a 300-acre parcel (see Figure 2, attached) at the Landfill.

   B. On December 8, 1960, the Regional Board adopted Order No. 60-75, prescribing waste discharge requirements (WDRs) for the disposal of non-hazardous solid and certain "semi-liquid" wastes, and inert wastes at the Landfill.

   C. On January 30, 1961, the County Engineer issued Industrial Waste Permit No. 2464 to the Calabasas Landfill, and approved by the Regional Board as requirements for the Landfill on April 19, 1961. Industrial Waste Permit No. 2464 was rescinded by the County on June 6, 1961, in accordance with County Ordinance No. 8023.

D. On September 15, 1965, the Regional Board adopted Order No. 65-47, prescribing WDRs for the disposal of liquid, semi-liquid and solid hazardous wastes in addition to non-hazardous solid and certain "semi-liquid" wastes, and inert wastes and superseding Order No. 60-75.

E. In 1966, under the authority of the JPA with the County, the Discharger purchased an additional 80 acres contiguous to the northern boundary of the Landfill (see Figure 2, attached).

F. On July 28, 1972, the Regional Board adopted a monitoring and reporting program (M&RP) for the Landfill, thereby amending Order No. 65-47.

G. In early 1972, under the authority of the JPA with the County, the Discharger purchased an additional 36 acres contiguous to the northern boundary of the Landfill, for the purpose of expanding landfilling operations. The addition of the new parcel increased the size of the Landfill to 416 acres (see Figure 2, attached).

H. Land use designations for the Landfill site were filed prior to the enactment of the California Environmental Quality Act (CEQA) in 1970. As such, no environmental impact report has been filed for the development of the Landfill. On August 9, 1972, the Los Angeles County Regional Planning Commission issued Conditional Use Permit (CUP) Case No 5022-(5) to the Discharger, encompassing all existing 416 acres of the total 505 acres that comprise the Landfill in accordance with a plot plan submitted by the Discharger.

I. On July 31, 1980, the Discharger voluntarily suspended hazardous waste disposal operations and began operating the Landfill as a ~~municipal solid waste~~ **MSW** facility. Accordingly, on April 27, 1981, the Regional Board adopted Order No. 81-12, revising portions of Order 65-47 and prohibiting disposal of all liquid and solid hazardous wastes effective July 31, 1980, and requiring containment engineering features and groundwater monitoring programs at the Landfill.

J. On August 23, 1982, the Regional Board adopted Order 82-67 and M&RP No. 4992. This Order reclassified the landfill as a ~~municipal solid waste~~ **MSW** facility, and prescribed WDRs for the disposal of nonhazardous solid and certain "semi-liquid" wastes, and inert wastes. Order 82-67 allowed expansion of waste disposal operations to the then existing 416 acres at the Landfill and superseding all prior requirements and Orders adopted by the Regional Board.

K. In 1983, under the authority of the JPA with the County, the Discharger purchased an additional 89 acres contiguous to the eastern boundary of the Landfill for access purposes, bringing the total acreage of the Landfill property to 505 acres (see Figure 2, attached).

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L. On May 22, 1989, the Regional Board adopted Order No. 89-053, revising the WDRs for the Landfill and superseding Order 82-67.

M. In January 1991, the County of Los Angeles passed Ordinance No. 91-0003 limiting disposal at the Landfill to a wasteshed comprised of the cities of Calabasas, Hidden Hills, Agoura Hills, Westlake Village, and Thousand Oaks, as well as a portion of the City of Los Angeles and certain unincorporated areas of Los Angeles and Ventura counties.

N. The Discharger conducted a solid waste assessment test (SWAT) analysis for the Landfill, consistent with section 13273 of the CWC, in 1987. The SWAT was approved by the Executive Officer on May 13, 1993. Results from the SWAT investigation indicated the presence of low levels of organic compounds emanating from the Landfill consistent with concentrations resulting from contact with landfill gas.

O. While the State Board and Regional Boards are the state agencies designated to protect water quality resulting from solid waste disposal activities, the California Integrated Waste Management Board (Waste Board) regulates all other aspects of solid waste disposal in the state. To remove regulatory overlap, conflict, and duplication between the Waste Board and the State Board/Regional Boards, the California Legislature, under the Solid Waste Disposal Regulatory Reform Act of 1993, streamlined the state's solid waste disposal regulatory process by developing one consolidated set of solid waste disposal facility regulations. The revised regulations, under title 27 of the California Code of Regulations (27 CCR) promulgated on July 18, 1997, clarify the roles and responsibilities of the Waste Board and the State Board/Regional Boards in regulating ~~municipal solid waste~~ **MSW** disposal sites.

P. Regulations in chapter I, part 6, of title 36 of the Code of Federal Regulations (CFR) are designed to limit the creation of new solid waste disposal sites in units of the National Park System (NPS) and to reduce the potential for adverse effects from existing operations in response to legislation passed by the United States Congress in 1984 (Public Law 98-506) with implementation of the law beginning in January 1995. Because the landfill is located in a northern segment of the Santa Monica Mountains National Recreation Area (see Figure 3, attached), the Discharger was required to apply for an NPS Special Use Permit (SUP) to continue operation. After a process that included an Environmental Assessment under the National Environmental Policy Act and public input, on November 1998, the NPS issued the Discharger a SUP. The SUP required the Discharger to clear the west-facing slope of existing ornamental vegetation and replant it with natives to blend in with surrounding plant communities. **The NPS issued**

Amendment Nos. 4 and 5 to the SUP on December 6, 2005 and August 28, 2007, respectively.

Q. On June 29, 2000, in response to documented releases to groundwater from the Landfill, the Regional Board adopted Order No. 00-077 implementing a corrective action program (CAP) for affected areas of the Landfill.

R. On April 25, 2002, the Executive Director of the SWRCB issued a request for Regional Boards to collect analytical results for radioactive waste constituents in liquid samples from state landfills to establish basic information on radioactivity characteristics of leachate and groundwater beneath active landfills in the state. Radioactivity testing was completed in 50 California landfills, including Calabasas Landfill. At the Landfill, groundwater samples were collected from monitoring wells where a release of volatile organic compounds (VOCs) had previously been detected, from unaffected monitoring wells, and from leachate collection and removal systems (LCRS). The samples were analyzed for specific conductance, gross alpha/beta particle activity, tritium, isotopic uranium (i.e., uranium-234, uranium-235, and uranium-238), radium-226, radium-228, and strontium-90, potassium, potassium-40, and cesium-137. VOC-affected monitoring wells results were within the range of results for unaffected well samples. LCRS samples contained alpha activity, beta activity, and uranium detections that overlapped with, and in some cases slightly exceeded the range of unaffected well samples. The LCRS results for alpha activity and uranium likely resulted from naturally-occurring uranium found in onsite shales used for daily cover. The slightly elevated beta activity results for the LCRS samples indicate that low levels of radioactivity associated with household wastes may be found in landfill LCRS liquids, with a significant portion being likely related to naturally-occurring radioactive potassium-40. Additional beta activity is likely related to beta-emitting daughter products derived from natural uranium-234 and uranium-238 present in LCRS liquids. While uranium and alpha particle activity concentrations in VOC-affected monitoring wells exceeded their respective MCLs for drinking water, these levels likely reflect natural sources rather than a release from the Landfill, since unaffected monitoring well results also exceed MCLs.

S. On January 29, 2006, the Regional Board adopted Order R4-2006-0007 as an Addendum No. 1 to general Order No. 93-062 for the purposes of establishing requirements for the acceptance of treated wood waste at MSW landfills throughout the Region, including Calabasas Landfill. Pursuant to sections 25143.1.5 and 25150.7 of the California Health and Safety Code, as amended in 2004, treated wood waste can be discharged into a composite lined portion of a MSW landfill equipped with an engineered liner and LCRS.

T. On March 6, 2008, the Regional Board adopted Order R4-2006-0013 for the purposes of establishing an emergency conditional waiver of statutory requirements to file a report of waste discharge (ROWD) and to adopt WDRs for the disposal solid waste from wildfires in Region MSW landfills, including Calabasas Landfill. As a result of a state of emergency proclaimed by the Governor, pursuant to section 15269 of title 14 of the California Code of Regulations, solid waste from wildfires can be discharged into a composite lined portion of designated MSW landfills equipped with an engineered liner and LCRS.

3. The Discharger intends to continue disposal operations as a modified "cut and cover" side hill landfill. Soil, for use as cover, is excavated within the Landfill property, or provided by reclaiming clean dirt loads from the incoming waste stream. Refuse is spread and compacted in cells approximately eighteen to twenty feet in height. On the exterior face of the Landfill, soil is placed at a minimum thickness of seven feet normal to the front face (fifteen feet on the horizontal). An approximately fifteen-foot wide bench is constructed approximately every 40 vertical feet to provide slope stability, drainage and access for maintenance. This design provides for proper grading and drainage of surface water to eliminate ponding of such water on the Landfill.

4. This Order includes the attached definition of terms and acronyms (Attachment 1).

ENVIRONMENTAL SETTING

5. The Landfill is located in the south central portion of the Western Transverse Range in the Santa Monica Mountains, which are characterized by east-west trending mountains of uplifted and folded sedimentary and volcanic rocks formed under intermittent continental and marine conditions. Numerous alluvial valleys and canyons crosscut the area, the most prominent of which is the Malibu Canyon. The Landfill straddles the Palo Comado and Las Virgenes Canyon basins of the Malibu Creek Watershed area (see Figure 4, attached).

6. Alluvium (unconsolidated sediments) in the canyons and valleys of the Malibu Creek Watershed area is thin, generally less than 30 feet thick. Groundwater is present in alluvium along the bottoms of canyons and valleys and in fractured volcanic rocks.

7. The Landfill is underlain by folded and faulted, generally low-permeability, sedimentary marine bedrock units. Unconsolidated surficial deposits, which include alluvium, colluvium, landslide deposits, and artificial fill, can transmit limited amounts of water to any saturated alluvium and weathered bedrock immediately underlying the Landfill. Groundwater in the unconsolidated surficial deposits and in the near-surface bedrock is impeded and extracted at six subsurface barriers located in former surface drainage courses around the Landfill (see Figure 5, attached). Groundwater in the vicinity of the Landfill is limited both in quantity and quality because of high salinity resulting from leaching of

native marine bedrock and soils, although historically water wells were drilled in the area, and used for domestic, industrial, municipal and irrigation purposes until the Las Virgenes Water District began importing superior quality water to the area.

8. Prior to the construction of dams and the import of water, Malibu Creek and its tributaries were losing streams, meaning stream water recharged groundwater. The importation of water has raised groundwater levels and increased surface runoff causing perennial flow in Malibu Creek and its larger tributaries. Locally, field investigations conducted by the Discharger indicate that Cheeseboro Creek is a recharging stream.

9. The Landfill is located within the Las Virgenes and Lindero Hydrologic Subareas of the Malibu Creek Hydrologic Area of the Malibu Hydrologic Unit. The Water Quality Control Plan for the Los Angeles Region (Basin Plan) designates beneficial uses for inland surface waters for Las Virgenes Creek and Medea Creek (for which Cheeseboro Creek and Liberty Creek which are adjacent to the Landfill are tributaries). The Basin Plan designates existing beneficial use of water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, rare, threatened, or endangered species, and wetland habitat for Las Virgenes Creek and wildlife habitat, rare, threatened, or endangered species, and wetland habitat for Medea Creek. In addition, the Basin Plan designates potential beneficial uses of municipal and domestic supply, cold freshwater habitat, migration of aquatic organisms and spawning, reproduction, and/or early development for Las Virgenes Creek, and intermittent beneficial uses for municipal and domestic supply for Medea Creek. The beneficial uses of surface waters in the unnamed canyons of the Landfill are not individually designated in the Basin Plan; however application of the tributary rule requires the beneficial uses of any specifically designated water body apply to its tributary streams. The requirements in this Order, as they are met, are in conformance with beneficial uses designated in the Basin Plan for canyons/streams at the Landfill that are tributary to the Las Virgenes and Lindero Hydrologic Subareas of the Malibu Creek Hydrologic Area of the Malibu Hydrologic Unit.

10. The Landfill does not directly overlie a groundwater basin, however, surface waters, perched groundwaters, and semi-perched canyon waters, if not collected by on-site Landfill controls could drain into groundwater of the Russell Valley Basin via Cheeseboro Creek (see Figure 6, attached). The Water Quality Control Plan for the Los Angeles Region (Basin Plan) also designates Las Virgenes Canyon as part of the Russell Valley Basin area. The Basin Plan designates municipal and domestic supply as beneficial or potentially beneficial use for groundwater in the Russell Valley Basin and Las Virgenes Canyon areas. Similarly, agricultural supply is designated as beneficial use and industrial service supply is designated as a potential beneficial use for these areas.

11. There are no known active faults within 200 feet of the Landfill. Active faults are defined as Holocene Epoch faults that have exhibited surface movement in the last 11,000 years. The nearest active fault, the Malibu Coast fault, is approximately nine miles to the south.

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12. Results of a seismic design investigation performed by the Discharger (GeoSyntec Consultants, 2001) indicate that the seismic sources that govern seismicity at the Landfill are either a moment magnitude 6.9 event on the Northridge Fault for a "near-field" maximum credible earthquake (MCE) design event, or a moment magnitude 7.8 event on the San Andreas Fault for a "far-field" MCE design event. A moment magnitude 6.9 event on the Northridge Fault located as close as 10.6 miles from the Landfill could generate a free-field bedrock peak horizontal ground acceleration (PHGA) of 0.29 g and have a duration of shaking of 13.8 seconds. For the San Andreas Fault, a moment magnitude 7.8 event located as close as 38.5 miles from the Landfill could generate a free-field bedrock PHGA of 0.10 g but have a duration of shaking of 35.6 seconds. The practice of this Regional Board is that all Landfill refuse fill slopes will incorporate MCE design events and will be designed and constructed in a manner that will resist settlement and prevent failure or problems associated with the containment or gas systems during such earthquake events.

13. The Seismic Hazard Zone Map for the Calabasas 7.5 minute quadrangles (released February 1, 1998) produced by the California Division of Mines and Geology Seismic Hazards Mapping Program (incorporated herein by reference) indicate that proposed operational areas at the Landfill are located within identified liquefaction zones. The hazard zone maps also identify areas where the previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions, indicate a potential for permanent ground displacements such that mitigation is required.

14. The Landfill is located within the South Coast Air Basin which is comprised of a coastal plain with broad valleys and low hills whose climate is dominated by the semi-permanent, high-pressure climatic conditions of the eastern Pacific zone. The area is characterized by warm, dry summers, mild winters, infrequent rainfall, moderate daytime on-shore breezes and moderate humidity. Rainfall data recorded using an on-site rain gauge between 1999 through 2008 yielded an average annual precipitation of 15.1 inches with 86% of the rainfall occurring between November and March and little rainfall during summer months. Evaporation data for the region, recorded for the calendar years 1996 and 2008 at the Pacoima Dam weather monitoring station by the Los Angeles County Department of Public Works Water Resources Division indicates a mean annual evaporation rate of approximately 86.2 inches.

15. Land uses within 1000 feet of the Calabasas Landfill (see Figure 7, attached) include R-SF, residential - single family; P, public and semi-public facilities; N20 and N10, Mountains Recreation and Conservation Authority Lands; OS-P, open space parks; and OS-DR open space, deed restricted. The single family residential development consists of the Saratoga Hills housing area to the immediate south of the Landfill. The Heschel West School is permitted on a parcel approximately 1 mile to the southwest of the Landfill.

16. According to the National Flood Insurance Program, administered by the Federal Emergency Management Agency, the Landfill is in an area classified as Zone C, designating

the absence of a flood hazard.

17. All known abandoned oil and water wells on the Landfill have been properly decommissioned according to appropriate Division of Oil and Gas (now the Division of Oil, Gas, and Geothermal Resources) guidelines. Some improperly decommissioned wells may exist for which no records exist. This Order specifies that upon discovery of any such wells they will be properly decommissioned according to the appropriate Oil, Gas, and Geothermal Resources requirements.

ENVIRONMENTAL PROTECTION AND MONITORING SYSTEMS

18. Engineered containment features for continued development of the Landfill will be constructed to the prescriptive standards of 27 CCR and/or **title 40 of the Code of Federal Regulations (**40 CFR**)** or equivalent performance standards. This Order specifies that final design and construction methods for proposed engineered systems be reviewed and approved by the Regional Board's Executive Officer (Executive Officer) prior to installation and use.

19. The Landfill is comprised of a number of sequential fill areas, most of whom have some type of modern liner system (see Figure 5, attached). The oldest portion of the Landfill is unlined, but has an operating landfill gas extraction system in addition to Subsurface Barrier Nos. 1, 2, and 5. This area received hazardous wastes (see Figure 8, attached), and is the subject of an on-going CAP. A release has not been detected for other portions of the Landfill, including the Subsurface Barrier Nos. 3, 4, and 6 areas.

20. Lined areas at the Landfill consist of two clay liner systems and nine composite liner systems (see Figure 5 attached). In order of installation, the composite liners are shown on Figure 5 as the 80-Acre Liner, the P-Cut Liner, the D-Cut Liner, 97-Cut Liner, 99-Cut Liner, Southeastern Cut (SEC) Liner, North Ridge Cut (NRC) Phase 1 Liner, the NRC Phase 2A Liner, the NRC Phase 2B-Stage 1A Liner, and the NRC Phase 2B-Stage 1B. The Discharger is constructing the NRC Phase 2B-Stage 2 composite liner system, which will be completed in mid-2009.

21. The LCRS systems from the P-Cut, 97-Cut, 99-Cut, SEC Cut, NRC Phase 1, NRC Phase 2A, and NRC Phase2B-Stage 1A liner systems have been coupled together and are therefore sampled together (sample location PSLC). The LCRS liquids from the 80-Acre Liner (sample location LCRS) and the D-Cut Liner (sample location DLCS) are sampled separately. The LCRS liquids from the Liner 1 and Liner 2 are combined with seep and underdrain systems and therefore cannot be sampled.

22. Section 20260 of 27 CCR requires a site operator to install a clay liner with a hydraulic conductivity of not more than $1x10^{-6}$ cm/sec when site characteristics alone are not adequate to ensure protection of the quality of groundwater. The Discharger has constructed liner

systems under several expansion areas constructed after the approval of CUP No. 5022-(5) that comply with state and federal liner requirements and generally consist of (from bottom to top) a subdrain, a clay liner, a synthetic liner, a blanket LCRS, and a protective layer of soil (see Figure 9, attached).

23. The Discharger has constructed six subsurface are cement-bentonite (slurry trench) barrier systems at the Landfill (see Figure ~~6~~ **5**, attached), using approved excavation and construction methods. The systems include upgradient groundwater extraction systems, a low permeability cut-off wall or barrier having a design hydraulic conductivity of $1x10^{-6}$ centimeters per second (cm/sec) and a minimum thickness of ~~twelve~~ twenty-four inches, and downgradient monitoring wells (see Figure 10, attached).

24. The Discharger continues to implement a waste-load-checking program, as managed by the County of Los Angeles Department of Environmental Health, the local enforcement agency, (LEA) for the Waste Board, to prevent the disposal of hazardous wastes, designated wastes, or other unacceptable materials. Hazardous materials are temporarily stored in a dedicated hazardous waste storage area and disposed of at an appropriate hazardous waste facility according to hazardous waste laws.

25. The Discharger initiated groundwater monitoring in 1983 having installed monitoring wells to intercept canyon water in alluvial canyons prior to landfilling in these areas. Subsequently, the Discharger has expanded the groundwater monitoring program at the Landfill to comply with Chapter 15 and later 27 CCR requirements. The Landfill groundwater monitoring program incorporated monitoring points that are upgradient, sidegradient, and/or downgradient of the Landfill. All existing piezometers, monitoring wells and extraction wells at the Landfill are shown on Figure 11 (attached).

26. In August 1995, in response to requirements of Order 93-062 to implement groundwater monitoring programs compliant with federal Subtitle-D requirements, the Discharger developed the report "*Calabasas Landfill Water Quality Monitoring System Report for Compliance with RWQCB Order No. 93-062*". The Discharger proposed to refine CAP and detection monitoring program (DMP) monitoring networks and to implement intra-well statistical analyses methods to comply with federal Subtitle-D requirements. The proposed modifications to the monitoring programs for the Landfill were approved by Regional Board staff during a June 6, 1995 meeting with the Discharger. The resulting compliance monitoring network focus**es** on monitoring in alluvial canyon areas (as shown in Figures 12-14, attached).

27. Pursuant to 27 CCR section ~~21769~~ **20415(d),** the Discharger is required to implement an unsaturated zone monitoring program at the Landfill. The intent of an unsaturated zone monitoring program is to monitor unsaturated soils/bedrock between the waste management unit and groundwater to potentially provide an early indication of groundwater quality degradation. The Discharger installed an unsaturated zone monitoring system in 1988

consisting of eleven suction lysimeters. Between 1988 to the present, the unsaturated zone monitoring system proved ineffective in supplementing water quality monitoring because collection of water samples was problematic, the lysimeters consistently failed to yield an adequate volume of water to allow analysis. ~~Because monitoring of shallow alluvial groundwater should allow for early detection of any contaminant release, unsaturated zone monitoring has been discontinued~~. **Through adoption of this Order, this Regional Board grants an exemption to further unsaturated zone monitoring, pursuant to 27 CCR 20415(d)(5).**

28. Landfill gas migration monitoring probes are located along the boundary of the Landfill (see Figure 15, attached). These probes are currently monitored on a monthly basis pursuant to requirements of the Waste Board and their LEA.

29. The Discharger will expand the Landfill gas recovery system to include the proposed waste management facility expansion. Gas is collected through extraction wells and rock-lined trenches, designed in accordance with 27 CCR requirements. The gas is combusted to reduce odor. Electricity is generated from this combusted gas. Excess gas is flared.

30. Proposed landfilling will reach a maximum elevation of ~~1,350~~ **1,360** feet above mean sea level (see Figure 16, attached). Proposed landfilling will slope down-canyon to the surrounding property. The permitted rate of waste disposal is 3,500 tons per day.

31. The Discharger uses recycled water for irrigation and dust control purposes at the Landfill. These uses are in conformance with the goals of the Basin Plan and State statutes and regulations pertaining to the use of recycled water in California that can be found in the CWC, CCR, and the health and safety code (HSC). State policy promotes the use of recycled water to the maximum extent in order to supplement existing surface and groundwater supplies to help meet water needs (CWC section**s** 13510 to 13512).

32. The Waste Board has approved the Discharger's proposal to use shredded greenwaste as alternative daily cover materials for use at the Landfill. The Discharger may evaluate the use of other materials as alternative cover materials in the future.

REGULATORY REQUIREMENTS

33. The United States Environmental Protection Agency (USEPA) under ~~title 40 of the code of federal regulations (~~40 CFR~~)~~ ~~section~~ **part** 257 and ~~section~~ **part** 258 (Subtitle D) revised existing regulations for ~~municipal solid waste~~ **MSW** disposal facilities in response to the 1984 Hazardous and Solid Waste Amendments of the Resources Conservation and Recovery Act and added new detailed requirements addressing the issues of location restriction, facility operation and design criteria, groundwater monitoring and corrective action, closure and postclosure maintenance, and financial assurance. USEPA delegated the responsibility for implementing these regulations to states with a fully approved landfill

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regulatory program. As responsible agencies for an approved state, the State Board and the Regional Board adopted **a WDR revision, for each MSW landfill in the Region, that implements** the federal Subtitle D regulatory requirements (State Board Resolution No. 93-62 and Regional Board Order No. 93-62, respectively). Regional Board Order No. 93-062 was adopted September 27, 1993.

34. The Discharger is subject to State Board Order No. 97-03-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001, "*Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities*". The Landfill is enrolled under general NPDES permit WDID No. ~~4B196000293~~ **4B196000294** to regulate surface water discharges and is subject to industrial stormwater permit No. ~~419S006192~~ **419I006192.**

CORRECTIVE ACTION PROGRAM

35. Order No. 89-053, provision C.6, requires the Discharger to institute a CAP if representative analyses of the groundwater shows a statistically significant increase**, relative to the applicable concentration limit (background data reference data set) for any constituent of concern (COC) named in the Landfill's water quality protection standard (WQPS)."** ~~in any water quality protection standard (WQPS), which are concentration limits for constituents of concern based upon established site specific background concentrations. In addition, all refuse fill areas are subject to the requirements of Regional Board Order No. 93-062, which implements the provisions of federal Subtitle D requirements, as contained in 40 CFR section 258, as well as state landfilling regulations contained in 27 CCR. These regulations specify that the WQPS for a CAP will not exceed background concentrations, unless the Regional Board finds that it is technologically or economically infeasible to achieve background concentrations.~~

36. **The Discharger determined that there is a statistically significant increase over background for appendix I of 40 CFR part 258 (Appendix I) constituents and intiated a response pursuant requirements of 40 CFR section 258.54(c).** VOCs, consisting of trichloroethylene (TCE), vinyl chloride, cis-1,2-dichloroethylene (cis1,2-DCE), 1,2-dichloroethane (1,2-DCA), perchloroethylene (PCE), p-dichlorobenzene (p-DCB), and 1,1-dichloroethane (1,1-DCA) have been detected in concentrations above drinking water standards (California Department of Health Services' maximum contaminant levels (MCLs)) at Subsurface Barrier No. 5. Vinyl chloride, cis1,2-DCE, 1,2-DCA, and 1,1-DCA have been detected in concentrations above MCLs at Subsurface Barrier No. 1. TCE, vinyl chloride, cis1,2-DCE, 1,2-DCA, and 1,1-DCA have been detected in concentrations above MCLs at Subsurface Barrier No. 2.

37. Following confirmation of a release, the Discharger completed a scan of the constituents listed in appendix II of 40 CFR ~~section~~ **part** 258 (Appendix II) in accordance with 40 CFR section 258.55 requirements. The testing results for the Appendix II constituents

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scan indicated that there were no ~~constituents of concern (~~COCs~~)~~ that had not previously been identified in the VOCs release in the Subsurface Barrier Nos. 1, 2 and 5 areas of the Landfill.

38. The Discharger completed an evaluation monitoring program (EMP) for the VOCs detected in groundwater monitoring wells downgradient of Subsurface Barrier Nos. 1, 2, and 5. The Discharger submitted a final evaluation monitoring program (EMP) report on September 30, 1998, based on numerous subsurface investigations completed by the Discharger that delineated the full lateral and vertical extent of the VOC releases near Subsurface Barrier Nos. 1 2, and 5. The Discharger installed monitoring wells R01A, R01B, R02A, R02B, R03A and R03B (Subsurface Barrier No. 1), R04A, R04B, R05A, R05B, R06A and R06B (Subsurface Barrier No. 2) and R07A, R07B, R08A and R08B (Subsurface Barrier 5) as ground water monitoring points at the Landfill boundary directly in the path of contaminant migration, pursuant to 40 CFR section 258.55(g)(1)(ii) and installed assessment wells M20S, P64S, P67S, P68S, P69S, EMP10 and EMP11 offsite to delineate the three-dimensional nature and extent of the release, pursuant to 40 CFR section 258.55(g)(1)(i) and 27 CCR section 20425(b).

39. The EMP also focused on the relationship between groundwater pollution and Cheeseboro Creek, a perennial creek located within 1,200 feet of Subsurface Barrier No. 5. Laboratory analyses of surface water and sediment samplings from Cheeseboro Creek aid not detect VOCs. Groundwater and creek base elevations indicate that the creek recharges groundwater during all seasons.

40. The Discharger prepared a final engineering feasibility study (EFS) pursuant to 27 CCR section 20425, based upon the findings in the final EMP, exploring eighteen corrective action technologies to mitigate the VOCs at Subsurface Barrier Nos. 1, 2 and 5.

41. Based upon the results of the EFS, the Discharger submitted a ROWD on March ~~3~~ **13**, 2000, which proposed a CAP that continues source control through operation of existing Subsurface Barrier Nos. 1, 2 and 5 groundwater extraction systems, enhanced landfill gas control, and allows for natural attenuation to dissipate VOCs in off-site areas. The CAP was adopted the Regional Board on June 29, 2000 (Order No. 00-077). Groundwater monitoring continues to be used to measure the effectiveness of the CAP. In addition, the Discharger performs semi-annual trend analyses on data obtained from key groundwater monitoring wells.

42. Pursuant to 27 CCR~~,~~ section 21730(c) **and 40 CFR sections 258.56(d) and 258.57**, the Discharger discussed the findings of the final EMP report, the EFS, and the proposed CAP at a public workshop held on April 11, 2000.

43. On May 16**,** 2000, the Discharger submitted a final ROWD and CAP proposal, which incorporated comments received at the public workshop, as well as responses to

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comments. As stated above, on June 29, 2000, the Regional Board adopted waste discharge requirements (Order No. 00-077) to implement the corrective action response to documented releases to groundwater from the Landfill.

44. The Discharger continues to notify all persons who own the land or reside on the land that directly overlies any part of the contaminant plume about the status of contaminants that have migrated off-site pursuant to 40 CFR section 258.55(g)(1)(iii) requirements.

45. This Order is in conformance with ~~State Board Resolution No. 93-62 because it requires~~ state and federal requirements for a CAP, for known and any future releases, ~~that~~ because it implements all applicable 27 CCR CAP requirements and all additional federal requirements under 40 CFR section**s 258.57 and** 258.58, including section 258.58(a)(1)(i-iii), which requires the Discharger to implement an assessment monitoring program (AMP) pursuant to 40 CFR section 258.55 in conjunction with the CAP.

46. This Order places the entire Landfill into a CAP while implementing corrective measures for the known releases meeting applicable state and federal requirements. This approach eliminates needless complexity associated with applying concurrent programs (i.e., running unaffected portions of the Landfill under a DMP and the portions affected by the release under either an EMP or a CAP, or both). The Regional Board chooses to implement this approach by documenting and responding to the compliance status of each monitoring parameter (Mpar) individually at each compliance well separately (i.e., the Discharger will track the compliance status of each such "well/MPar pair" separately).

47. Since landfill gas is the principal source of the release from the Subsurface Barrier Nos. 1, 2 and 5 areas of the Landfill, the Discharger has installed/improved landfill gas collection and extraction systems as interim corrective action measures (interim CAMs). Operation of enhanced landfill gas collection and extraction systems in these areas commenced in approximately January 1999.

48. To further reduce the downgradient migration of contaminants in groundwater, the Discharger has conducted groundwater containment pumping at the subsurface barriers before 1999. VOCs are removed from the extracted groundwater through an air-stripping facility and the treated water is used onsite for dust control pursuant to the Order No. 89-053.

49. Under this Order, at any given time, each well/MPar pair will be in one of two compliance status conditions. Prior to the MPar's exhibiting a measurably significant exceedance at a given well, that well/MPar pair will be in "detection mode" and monitoring will involve statistical or non-statistical data analysis designed to detect a Landfill-related increase at that well for that MPar. Once a well/MPar pair exhibits a measurably significant increase, it will change to "tracking mode" and monitoring will involve concentration-versus-time plotting to document changes in the release. Once in

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tracking mode, a well/MPar pair can return to detection mode only upon inception of a proof period to demonstrate the successful completion of corrective action.

50. This Order minimizes the occurrence of false-positive indications in two ways:

a) it includes a non-statistical data analysis method, meeting 27 CCR section 20415(e)(8-9), that collectively analyzes all the Mpars, at a given well, whose background data exceeds its respective method detection limit (MDL) no more than 10% of the time; and

b) all statistical and non-statistical data analysis methods used on well/MPars in detection mode data analyses under this Order include a discrete retest as described under 27 CCR section 20415(e)(8)(E).

51. To assure compliance with the requirements and considerations under 40 CFR section 258.55 through section 258.57 and 27 CCR section 20425 in the simplest way possible, this Order:

a. requires statistical or non-statistical data analysis, at any given compliance well, only for those MPars that are in detection mode at that well;

b. requires concentration-versus-time plotting, at any given compliance well, for all MPars that are in tracking mode at that well;

c. uses a periodic (five-year) presence/absence screening of all COCs, rather than statistical/non-statistical data analysis, at all appropriate wells to keep the MPar list updated to include all COCs that are detectable in groundwater;

d. uses annual leachate sampling (~~Liner 2,~~ 80-acre, D-Cut, **and combined** P-Cut, 97-Cut, 99-Cut**,** ~~and~~ SE-Cut**, and North Ridge Cut liner** areas), for all non-COC Appendix II constituents, to keep the COC list updated to include all Appendix II constituents that could be released from lined areas of the Landfill, and

e. implements an automatic update procedure to assure that the MPar and COC lists remain current.

52. Given that detection mode testing can be compromised by the arrival of a COC at any background well either as a result of the release (e.g., through advective flow, in the unsaturated zone, of gas-phase VOCs in landfill gas) or through the arrival of such a constituent from an upgradient source, this Order implements a simple means for identifying such anomalies which requires the Discharger to investigate their cause, and initiates appropriate adjustments to the monitoring program.

53. Since 1994, the Discharger has been monitoring leachate annually from existing LCRSs for Appendix II constituents, and re-testing for newly discovered ones, in order to create a COC list containing those Appendix II constituents that could be released from these areas of the Landfill. These WDRs narrow the scope of the COC list for the areas downgradient of Subsurface Barriers Nos. ~~1,~~ 3, 4, ~~5~~ and 6 to include, from Appendix II, only those constituents that have been detected and verified in leachate as indicated in Table 1 of M&RP No. CI-4992. By monitoring for detectable COCs, and any foreseeable breakdown products, the Discharger will be monitoring for all Appendix II constituents that could be released from the Subsurface Barriers Nos. 1, **2,** ~~3, 4,~~ 5 ~~and 6~~ areas of the Landfill. This is the manner in which this Order meets the requirements of 40 CFR section 258.55(b). Because portions of the Landfill are unlined, leachate monitoring is not possible. Thus, for groundwater monitoring wells downgradient of the Subsurface Barriers No. 2 area, the COC list includes all Appendix II constituents.

54. Given that the VOCs in the federal monitoring parameter list, Appendix I to 40 CFR ~~section~~ **part** 258 (Appendix I), are all Appendix II constituents, leachate sampling from the LCRSs for the Subsurface Barriers Nos. ~~1,~~ 3, 4, ~~5~~ and 6 areas also serves as a basis for narrowing the scope of VOCs which the Discharger must monitor in these areas to include only those Appendix I constituents that have ever been detected in leachate, at trace level or above, and verified by retest. This is the manner in which this order implements 40 CFR section 258.54(a)(1).

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55. In September 2004, the State Board adopted regulations requiring that dischargers begin electronic submittal of information (ESI) for all groundwater cleanup programs regulated by the Regional Water Quality Control Boards. Effective January 1, 2005, electronic submittal of all technical reports and monitoring reports was extended to include all reports filed by Land Disposal Program dischargers. The requirements in this Order, as they are met, are in conformance ESI regulations.

56. On June 13, 1994, this Regional Board adopted a revised *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan). The Basin Plan (including its subsequent amendments) designates beneficial uses and water quality objectives for the area of the Landfill. The requirements in this Order, as they are met, are in conformance with the goals of the Basin Plan.

57. California Water Code (CWC) section 13263 provides that all WDRs shall be reviewed periodically and, upon such review, may be revised by the Regional Board to comply with changing state or federal laws, regulations, policies, or guidelines. The Discharger's WDRs are being revised to update water quality monitoring programs including an ongoing CAP and implementation of an AMP for the Landfill.

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58. Revision of the Discharger's WDRs for the Landfill constitutes an existing project as defined in section 15301, chapter 3, title 14 of the CCR and is therefore exempt from the provisions of the CEQA (Public Resources Code section 21000 et seq.).

The Regional Board has notified interested agencies and all known interested parties of its intent to issue requirements for waste disposal, AMP, and CAP for the Landfill.

The Regional Board in a public meeting heard and considered all comments pertaining to waste disposal, CAP, and AMP for the Landfill.

~~Pursuant to section 13320 of CWC, any aggrieved party may seek review of this Order by filing a petition with the State Board. The petition must be received by the State Water Resources Control Board, P.O. Box 100, Sacramento, CA 95812, within 30 days of the date this Order is adopted.~~ **Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must *receive* the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: *http://www.waterboards.ca.gov/public_notices/petitions/water_quality* or will be provided upon request.**

IT IS HEREBY ORDERED that the Discharger shall comply with the following requirements pertaining to the Landfill:

A. PROHIBITIONS

1. Discharges of waste to land as a result of inadequate waste disposal and postclosure maintenance practices, and that have not been specifically described to the Regional Board and for which valid WDRs are not in force, are prohibited.

2. The discharge of waste shall not:

   a. Cause the occurrence of coliform or pathogenic organisms in waters pumped from a groundwater basin;

   b. Cause the occurrence of objectionable tastes or odors in waters pumped from a groundwater basin;

   c. Cause waters pumped from a groundwater basin to foam;

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d. Cause the presence of toxic materials in waters pumped from a groundwater basin;

e. Cause the pH of waters pumped from a groundwater basin to fall below 6.0, or rise above 9.0;

f. Cause the Regional Board's objectives for the groundwaters or surface waters as established in the Basin Plan to be exceeded; and

g. Cause pollution, contamination, or nuisance, as defined in CWC section 13050, or adversely affect beneficial uses of groundwaters or surface waters as established in the Basin Plan.

3. Odors, vectors, and other nuisances of waste origin beyond the limits of the Landfill are prohibited.

4. The discharge of waste to surface drainage courses or to usable groundwater is prohibited.

5. ~~**Basin Plan prohibitions shall not be violated.**~~ **The Discharger shall conduct site operations such that there is no release from the Landfill that causes any Basin Plan objective to be exceeded at any location under, or in the vicinity of, the Landfill. Moreover, no COC shall exhibit a measurably significant increase over its respective Concentration Limit (background data set) at any well, as indicated by an approved statistical or nonstatistical data analysis method (including that method's retesting approach).**

6. All federal, state, and county sanitary health codes, rules, regulations, and ordinances pertinent to the disposal of wastes on land shall be complied with in the operation and maintenance of the Landfill.

B. REQUIREMENTS FOR ACCEPTABLE MATERIALS

1. The Discharger shall only accept waste for disposal at the Landfill as deemed acceptable for a ~~municipal solid waste~~ **MSW** facility by the Regional Board through orders or regulations.

2. Wastes disposed of at the Landfill shall be limited to **municipal** ~~certain non-hazardous~~ solid wastes (as described in section 20220(a) of 27 CCR), inert solid wastes (as described in section 20230 of 27 CCR), water treatment sludge, and treated wood waste (TWW).

3. Non-hazardous solid waste means all putrescible and non-putrescible solid, semi-

solid and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes, and other discarded waste (whether of solid or semi-solid consistency); provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentrations which exceed applicable water quality objectives, or could cause degradation to waters of the state (i.e., designated waste).

4. Dewatered sewage or water treatment sludge may be discharged under the following conditions:

   a. In areas containing approved liner and LCRS systems, sludge may be discharged provided it contains at least twenty percent solids if primary sludge, or at least fifteen percent solids if secondary sludge, mixtures of primary or secondary sludges, or water treatment sludge.

   b. In areas where no approved liner and LCRS exist, sludge may be discharged if it contains at least 50 percent solids whether primary or secondary sludge, mixtures of primary or secondary sludges, or water treatment sludge.

   c. A minimum solids-to-liquids ratio of 5:1 by weight shall be maintained to ensure that the co-disposal will not exceed the initial moisture-holding capacity of the non-hazardous solid waste.

5. TWW may be disposed of at the Landfill under the following conditions:

   a. Discharge of TWW shall only be to composite-lined portions of the Landfill.

   b. The TWW is managed so as to prevent scavenging.

   c. Any management of the TWW at the Landfill prior to disposal, or in lieu of disposal, complies with applicable HSC requirements.

   d. TWW disposal shall be discontinued if monitoring of the composite-lined portion of the Landfill where TWW disposal has occurred indicates a verified release until corrective action results in cessation of the release.

C. REQUIREMENTS FOR UNACCEPTABLE MATERIALS

1. No hazardous wastes (as defined in 22 CCR section 66261.3 et seq.), designated wastes (as defined in CWC section 13173), or special wastes (as defined in 22

CCR), such as liquids, oils, waxes, tars, soaps, solvents, or readily water-soluble solids, such as salts, borax, lye, caustic or acids shall be disposed of at the Landfill.

2. No semi-solid wastes shall be disposed of at the Landfill, except sludges under conditions set forth in Provision No. B.4 above, or unless they are first processed in a solidification operation approved by the Executive Officer. Semi-solid waste means waste containing less than 50 percent solids, as described in section 20200 of 27 CCR. In cases of spoiled semi-solid food wastes Regional Board staff are authorized to approve solidification or waste disposal operations at the Landfill on a case-by-case basis.

3. No materials that are of a toxic nature, such as insecticides or poisons, shall be disposed of at the Landfill.

4. No incinerator ash shall be disposed of at the Landfill.

5. No radioactive waste, including low level radioactive waste, as defined by the agency with jurisdictional authority, shall be disposed at the Landfill.

6. No infectious materials or hospital or laboratory wastes, except those authorized for disposal to land by official agencies charged with control of plant, animal and human disease, shall be disposed of at the Landfill.

7. No pesticide containers shall be disposed of at the Landfill, unless they are rendered non-hazardous by triple rinsing. Otherwise, they must be hauled off-site to a legal point of disposal.

8. No septic tank or chemical toilet wastes shall be disposed of at the Landfill.

D. REQUIREMENTS FOR DISPOSAL SITE OPERATIONS

1. Drainage controls, structures, and facilities shall be designed to divert any precipitation or tributary runoff and prevent ponding and percolation of water at the Landfill in compliance with section 20365 and section 21090(b)(1) of 27 CCR. When necessary, temporary structures shall be installed as needed to comply with this requirement.

2. The Landfill shall be graded and maintained to promote runoff of precipitation and to prevent ponding of liquids and surface water. Erosion or washout of refuse or cover materials by surface flow shall be controlled to prevent off-site migration.

3. Wastes deposited at the Landfill shall be confined thereto, and shall not be permitted to blow, fall, or otherwise migrate off-site, or to enter off-site water drainage facilities or watercourses.

4. The periodic load-checking program shall continue to be implemented to prevent the disposal of hazardous wastes, designated wastes, or other unacceptable wastes.

5. Waste material shall not be discharged on any ground surface that is less than five feet above the highest anticipated groundwater level, including capillary rise.

6. The Discharger shall comply with notification procedures contained in section 13271 of the CWC with regard to the discharge of hazardous wastes. The Discharger shall remove and relocate to a legal point of disposal, any wastes that are discharged at the Landfill in violation of these requirements. The Regional Board shall be informed via semi-annual monitoring reports when relocation of wastes is necessary. The source and final disposition (and location) of the wastes, as well as methods undertaken to prevent future recurrence of such disposal shall also be reported.

7. All wastes shall be covered at least once during each 24-hour period in accordance with section 20680 and section 20705 of 27 CCR. Intermediate cover over wastes discharged to the Landfill shall be designed and constructed to minimize percolation of precipitation through wastes and contact with materials deposited.

8. Alternative daily cover at the Landfill may be used consistent with section 20690 of 27 CCR.

9. The migration of gases from the Landfill shall be controlled as necessary to prevent water pollution, nuisance, or health hazards. The discharge of wastes or waste by-products (i.e., leachate or gas condensate) to off-site surface drainage courses or to groundwater is prohibited.

10. No surface water or stormwater shall leave the Landfill except as permitted by a NPDES permit issued in accordance with the federal CWA and the CCR. The Discharger shall maintain and modify, as necessary, the SWPPP developed for the Landfill.

11. Gas condensate gathered from the gas monitoring and collection system at the Landfill shall not be returned to the Landfill unless approved by the Executive Officer**, and the condensate is discharged to a composite-lined portion of the Landfill.** Any proposed modifications or expansions to this system shall be designed to allow the collection, testing and treatment, or disposal by approved methods, of all gas condensate produced at the Landfill.

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12. The Discharger shall intercept and remove any liquid detected in all LCRSs at the Landfill to a legal point of disposal and leachate shall not be returned back to the Landfill unless it meets the requirements of this Order for onsite reuse as described in Section G, below and satisfies leachate handling requirements contained in 27 CCR section 20340(g)**, and 40 CFR section 258.28**. Any leachate determined to be hazardous shall be transported by a licensed hazardous waste hauler to an approved treatment or disposal facility.

13. In any area within the Landfill where a natural spring or seep **or subsurface soil mottling** is observed, provisions shall be made and/or facilities shall be provided to ensure that this water will not come in contact with decomposable refuse. The locations of all springs and seeps **and areas exhibiting mottled subsurface soil conditions** found prior to, during, or after placement of waste material that could affect the Landfill shall be reported to the Regional Board.

14. The Discharger shall develop/maintain permanent survey monuments at the Landfill throughout the development, closure and postclosure maintenance periods. Benchmarks shall be established and maintained in sufficient numbers to enable reference to key elevations and to permit control of critical grading and compaction operations.

15. The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, and adequate laboratory and process controls including appropriate quality assurance procedures.

16. The Discharger shall report any noncompliance or any incident resulting from Landfill operations that are in violation of this Order. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within fourteen days of the time that the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, or prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

E. REQUIREMENTS FOR CONTAINMENT SYSTEMS

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1. The Discharger shall install containment structures that are capable of preventing degradation of the waters of the state. Construction standards for containment structures shall comply with 27 CCR requirements. Design specifications are subject to review and approval by the Executive Officer prior to any construction.

2. All containment structures and erosion and drainage control systems at the Landfill shall be designed and constructed under direct supervision of a California-registered civil engineer or certified engineering geologist, and shall be certified by the individual as meeting the ~~prescriptive standards and/or performance goals of 27 CCR~~ **applicable prescriptive and performance standards of 27 CCR (or, for an engineered alternative design under 20080(b and c) meeting its applicable performance standards therein)**.

3. The Discharger shall submit detailed preliminary plans, specifications, and descriptions for all proposed containment structures and construction features for Executive Officer approval at least 60 days prior to construction. The preliminary plans shall contain detailed quality assurance/quality control for the proposed construction. No disposal shall occur in a new area until the corresponding construction is completed and certified. The Discharger shall also submit a description of, and location data for, ancillary facilities, including roads, waste handling areas, buildings, and equipment cleaning facilities. As-built plans shall be submitted within 60 days after the completion of construction. If the as-builts are virtually identical to the approved preliminary plans and specifications, only change sheets need be submitted in lieu of complete as-built plans. Along with the change sheets or as-builts, the Discharger shall submit a program that will provide for the annual testing of the LCRS to demonstrate its operating efficiency**, including a proposed and substantiated triggering concentration-or-condition, for that annual test, that will indicate that the LCRS can no longer handle at least twice the maximum expected annual leachate flow rate [see 27 CCR 20340(b through d)]**.

4. Cut and subgrade slopes, fill slopes, refuse cells and visual berms shall be designed and excavated or constructed in a manner that will resist settlement and remain stable during the design earthquake event specific to the Landfill in accordance with section 20370 of 27 CCR.

F. REQUIREMENTS FOR GROUNDWATER MONITORING

1. The Discharger shall implement the attached M&RP No. CI-4992 which is incorporated herein by reference and revisions thereto in order to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the Landfill or any unreasonable impairment of beneficial uses associated with (caused by) discharges of waste to the Landfill and to continue the CAP for areas

of the Landfill where releases to groundwater have occurred. M&RP No. CI-4992 is designed to satisfy both federal and state regulatory monitoring requirements.

2. At any time, the Discharger may file a written request, including appropriate supporting documents, with the Executive Officer, proposing modifications to M&RP No. CI-4992. The Discharger shall implement any changes to the revised M&RP approved by the Executive Officer upon receipt of a signed copy of the revised M&RP.

3. The Discharger shall furnish, under penalty of perjury, technical or monitoring program reports in accordance with CWC section 13267. Failure or refusal to furnish these reports or falsifying any information provided therein renders the Discharger guilty of a misdemeanor and subject to the penalties stated in CWC section 13268. Monitoring reports shall be submitted in accordance with the provisions contained in the attached M&RP No. CI-4992, as directed by the Executive Officer.

4. The effectiveness of all monitoring wells, monitoring devices, and leachate and gas collection systems shall be maintained throughout the Landfill's operational, closure, and postclosure maintenance periods in accordance with acceptable industry standards. The Discharger shall maintain a monitoring well preventative maintenance program (MWPMP) approved by the Executive Officer. Elements of the program should include a minimum of periodic visual inspections of well integrity, pump removal and inspection, and appropriate inspection frequencies. If a well or piezometer is found to be inoperative, the Regional Board and other interested agencies shall be so informed in writing within seven days after such discovery, and this notification shall contain a time schedule for returning the well or piezometer to operating order. Changes to the existing program shall be submitted for Executive Officer approval at least 30 days prior to implementing the change(s).

5. If a well or piezometer is proposed to replace an inoperative well or piezometer identified in the MWPMP, the Discharger shall not delay replacement while waiting for Executive Officer approval. However, a technical report describing the location and construction details shall be submitted to the Executive Officer within 30 days.

6. The Discharger shall provide for proper handling and disposal of water purged from monitoring wells at the Landfill during sampling. Water purged from a monitoring well shall not be returned to that well (or any other Landfill well).

7. Any abandoned wells or bore holes under the control of the Discharger, and situated within the Landfill boundaries, must be located and properly modified or sealed to prevent mixing of any waters between adjacent water-bearing zones. A

notice of intent to decommission a well must be filed with the appropriate regulatory agencies prior to decommissioning. Procedures used to decommission these wells, or to modify wells still in use, must conform to the specifications of the local health department or other appropriate agencies.

8. For any monitoring wells installed at the Landfill in the future, the Discharger shall submit technical reports for approval by the Executive Officer prior to installation. These technical reports shall be submitted at least 60 days prior to the anticipated date of installation of the wells. These reports shall be accompanied by:

   a. Maps and cross sections showing the locations of the monitoring points; and

   b. Drawings and data showing construction details of the monitoring points. These data shall include:

      i. casing and test hole diameter;
      ii. casing materials;
      iii. depth of each hole;
      iv. the means by which the size and position of perforations shall be determined, or verified, if in the field;
      v. method of joining sections of casing;
      vi. nature of filter materials;
      vii. depth and composition of soils; and
      viii. method and length of time of well development.

9. ~~The compliance point(s) where WQPSs apply shall be located along downgradient edges of waste management facilities at the Landfill or an alternate location approved by the Executive Officer.~~ **The point of compliance (POC) for groundwater monitoring is located along the refuse fill limits of the Landfill, as shown on Figure 8 (attached) pursuant to 27 CCR section 20405(a). Groundwater monitoring locations at the Landfill comply with section 258.40(d) of 40 CFR that allows the POC to be located up to 150 meters downgradient of the landfill is consistent with an engineered alternative monitoring approach under 27 CCR 20080(b) and (c).**

10. The compliance monitoring wells at the Landfill shall consist of those wells listed in Item No. 7 of M&RP No. CI-4992. All monitoring wells shall be monitored pursuant to this Order and as directed by the Executive Officer through future revisions of M&RP No. CI-4992.

11. The ~~MPars and~~ COCs for compliance monitoring wells at the Landfill shall be those described in Item Nos. 10 and 11 of M&RP No. CI-4992.

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12. The compliance period ~~for which WQPSs are applicable~~ shall be **the total number of years of** the entire active life of a waste management facility~~, and during the closure and postclosure maintenance periods~~ **plus the estimated duration of the closure period. The Landfill's estimated compliance period duration is 69 years**.

13. The Discharger shall install any additional groundwater, soil pore liquid, soil pore gas, or leachate monitoring devices necessary to comply with M&RP No. CI-4992, as adopted or as revised by the Executive Officer.

14. The **concentration limits** ~~WQPS~~ for the on-going CAP at Subsurface Barrier Nos. 1, 2 and 5 ~~of the Main Canyon~~ **for** landfill-gas related VOCs will be the**ir respective** Minimum Levels (ML) as defined in Attachment 1**,** using USEPA method 8260, or an equivalent method approved by the Executive Officer.

15. The Discharger shall submit semi-annual reports to the Regional Board that describe the effectiveness of the CAP, according to the schedule outlined in revised M&RP No. CI- 4992.

16. If the Discharger **or Executive Officer** determines that the CAP **either fails to contain the release or fails to provide effective remediation for those portions of the aquifer already affected by the release, pursuant to 27 CCR, paragraphs 20430(i) or (j) respectively,** ~~does not satisfy the provisions of 27 CCR, section 20430(i)~~ the Discharger shall, within 90 days of making the determination, submit an amended ROWD to make appropriate changes to the CAP.

17. Groundwater monitoring results from monitoring well EMP11, downgradient of Subsurface Barrier No. 2, routinely indicate the presence of VOCs. In 1995, The Discharger completed an isotopic analysis on methane detected in the headspace of well EMP11. The analysis determined that the methane was related to naturally occurring petroleum hydrocarbon compounds (methane, benzene, toluene, ethyl benzene, and xylenes) present in the underlying Topanga Formation bedrock. To assure that VOC detections in well EMP11 are not related to a Landfill release, within 60-day from the adoption of this Order, the Discharger submit a technical report containing updated isotopic monitoring well EMP11.

G. REQUIREMENTS FOR ON-SITE USE OF WATER

1. No water shall be routinely applied to refuse fill areas except for landscape irrigation, surface dust control, winter deck construction, road construction, final cover construction or non-emergency uses approved by the Executive Officer. Any

water used at the Landfill, except for potable water, recycled water, and any other water allowed by the Executive Officer, shall be subject to these WDRs. Water used for these purposes shall be applied only on completed lifts, in quantities not to exceed that necessary to reduce immediate dust hazards, support plant life, or to achieve desired compaction. Overflow or runoff caused by the over-application or improper management of irrigation or dust control water are prohibited.

2. No wastewater shall leave the Landfill except as permitted by an NPDES permit issued in accordance with the federal Clean Water Act (CWA) and CWC. The Discharger shall maintain and modify, as necessary, the NPDES Storm Water Pollution Prevention Plan developed for the Landfill **subject to approval by the Executive Officer**.

3. Wastewater produced at the Landfill shall not be subject to these WDRs, pursuant to Provision No. G.2 above, if it meets applicable requirements of the CWC, CCR, and HSC for recycled water. In order for wastewater to not be subject to WDRs it shall comply with regulatory criteria promulgated by the DHS, currently set forth in title 22, division 4, section 60301 et seq., CCR, which includes specified approved uses of recycled water, numerical limitations and requirements, treatment method requirements and performance standards to be considered equivalent to recycled water. Because the DHS is statutorily required (CWC section 13521) to establish uniform statewide reclamation criteria for the various uses of recycled water to assure protection of public health where recycled water use is involved, pursuant to CWC section 13523, the Regional Board has consulted with and considered recommendations of the DHS in issuing waste discharge/water recycling requirements. The Discharger shall demonstrate to the Executive Officer compliance with this provision before each Landfill wastewater source is used as an equivalent recycled water as defined above.

4. Requirements for the use of recycled water at the Calabasas Landfill are also controlled by Water Reclamation Requirements for the Tapia Water Reclamation Facility (Regional Board Order No. 87-086), which is the source of recycled water used at the Landfill. (Order No. 87-086 was readopted on May 12, 1997, through General blanket Order No. 97-072). Order No. 87-086 contains recycled water requirements and provisions in accordance with California Code of Regulations Title 22 Water Recycling Criteria. The use of Title 22 tertiary treated recycled water at the Calabasas Landfill includes, but is not limited to landscape irrigation and dust control.

5. Mixing any Landfill wastewater source with recycled or potable water to achieve equivalence to recycled water standards, as described in Provision No. G.3 above, is prohibited ~~unless specifically approved~~ **if deemed unsuitable** by the Executive Officer. **Within 120 days of the adoption of this Order, the Discharger shall**

submit a technical report for approval by the Executive Officer which describes the current practice for wastewater handling and processing, characterizes the wastewater sources, and evaluates the suitability of each wastewater source for on-site reuse.

6. During periods of precipitation, when the use of irrigation or dust control is not necessary for the purpose specified in this Order, all wastewater generated at the Landfill shall be stored, discharged to the sanitary sewer, or hauled to a legal point of disposal.

7. Washing of paved Landfill roads during rainy periods shall only occur when muddy roads create a safety concern. Washing of equipment or vehicles on the Landfill shall be confined to controlled areas where the wastewater is collected for proper disposal.

8. Wastewater used at the Landfill shall not percolate into the disposal areas or native soil, or enter stormwater collection systems, except as specifically permitted by this Order.

9. All uses of potable water, recycled, or wastewater shall be within the boundaries of the Landfill property. During an emergency, this water may be used for fire fighting on the Landfill or on undeveloped areas off and adjacent to the Landfill.

H. REQUIREMENTS FOR REPORTING SCHEDULED ACTIVITIES

1. The Discharger shall notify Regional Board staff at least 30 days prior to any maintenance activities, for approval by the Executive Officer, which could alter existing surface drainage patterns or change existing slope configurations. These activities may include, but not be limited to, significant grading activities, the importation of fill material, the design and installation of soil borings, groundwater monitoring wells and other devices for Landfill investigation purposes.

2. The Discharger shall furnish, within a reasonable time, any information the Regional Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Discharger shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

3. If the Discharger becomes aware that ~~it~~ **the Discharger** failed to submit any relevant facts in any report to the Regional Board, it shall submit such facts or information within seven days of its discovery of the omission.

4. The Regional Board shall be notified of any incident resulting from Landfill

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operations that may endanger the environment, by telephone within 24 hours, and in writing within fourteen days. The written notification shall fully describe the incident including what occurred, when it occurred, the duration of the incident, when correction occurred (or when correction will occur if it is a continuing incident), and the steps taken or planned to reduce, eliminate, and/or prevent recurrence. All instances of noncompliance with this Order shall also be reported to the Regional Board in the same manner as stated above**, and shall also be included in the next scheduled monitoring report**.

5. The Discharger shall notify the Executive Officer, in writing, at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage between the Discharger and a new owner of the Landfill. Any transfer agreement between the Discharger and a new owner or operator shall include an acknowledgement that the Discharger is liable for violations up to the transfer date and that the new owner is liable from the transfer date on. The agreement shall include an acknowledgement that the new owners accept responsibility for compliance with this Order.

6. The Discharger shall notify the Regional Board in writing within seven days, if fluid is detected in a previously dry LCRS.

7. The Discharger shall submit or update an existing "Operations Plan" for the Landfill within 90 days after adoption of this Order, to be approved by the Executive Officer, describing Landfill operations which shall include:

   a. A description of proposed treatment, storage, and disposal methods.

   b. Contingency plans for the failure or breakdown of waste handling facilities which could potentially have water quality effects, including notice of any such failure, or any detection of waste or leachate in monitoring facilities, to the Regional Board, appropriate local governments, and water users downgradient of the Landfill.

   c. A description of inspection and maintenance programs which will be undertaken regularly during disposal operations, the closure, and the postclosure maintenance period of facilities or equipment, which could have potential water quality effects.

8. The Discharger shall notify the Regional Board of changes in information submitted in the JTD and supplementary information, including any material change in the types, quantities, or concentrations of wastes discharged; or Landfill operations and features. The Discharger shall notify the Regional Board at least 120 days before any material change is made at the Landfill.

9. The Discharger shall comply with the closure and postclosure maintenance requirements and notification requirements contained in 27 CCR section 21769. Closure must be in accordance with a closure plan and postclosure maintenance plan approved by the Executive Officer and the Waste Board.

10. Reports of the quality and quantity of sludge disposed of at the Landfill shall be filed for each monitoring period.

11. The Discharger shall report (on a semi-annual basis) the total volume of all irrigation water used at the Landfill each month and the area(s) where it is applied.

12. All applications, reports, or information submitted to the Executive Officer shall be signed and certified as follows:

    a. The applications, reports, or information shall be signed as follows:

        i. For a corporation - by a principal executive officer of at least the level of vice-president.

        ii. For a partnership or sole proprietorship - by a general partner or the proprietor, respectively.

        iii. For a municipality, state, federal or other public agency - by either a principal executive officer or ranking elected official.

        iv. For a military installation - by the base commander or the person with overall responsibility for environmental matters in that branch of the military.

    b. All other reports required by this Order and other information required by the Executive Officer shall be signed by a person designated in paragraph [a] of this provision, or by a duly authorized representative of that person. An individual is a duly authorized representative only if:

        i. The authorization is made in writing by a person described in paragraph [a] of this provision;

        ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity; and

        iii. The written authorization is submitted to the Executive Officer.

c. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

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I. GENERAL PROVISIONS

1. This Order does not authorize violation of any federal, state, or local laws or regulations.

2. Beneficial uses of surface waters in the canyons/streams at the Landfill are not specifically designated in the Basin Plan. However, since these canyon/streams are tributary to the Las Virgenes and Lindero Hydrologic Subareas of the Malibu Creek Hydrologic Area of the Malibu Hydrologic Unit, the Regional Board finds that the beneficial uses designated in the Basin Plan for the Las Virgenes and Lindero Hydrologic Subareas apply to these tributary canyons/streams.

3. ~~The Discharger shall comply with all the other applicable provisions, requirements, and procedures contained in the most recent version of 27 CCR and any future amendments.~~ **Any time the Discharger becomes aware of a requirement in 27 CCR, or 40 CFR part 258, that should be addressed in this Order, the Discharger shall so notify the Regional Board within seven days.**

4. The Discharger has a continuing responsibility for correcting any problems which may arise in the future as a result of waste discharged at the Landfill, and from gases and leachate that may be caused by infiltration or precipitation of drainage waters into the waste disposal units, or by infiltration of water applied to this property during subsequent use of the land or other purposes.

5. The Discharger shall allow the Regional Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

   a. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;

   b. Have access to and copy, at reasonable times, any records that shall be

kept under the conditions of this Order;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d. Sample or monitor at reasonable times, for the purpose of assuring compliance with this Order or as otherwise authorized by the CWC, any substances or parameters at this location.

6. The Discharger shall maintain a copy of this Order at the Landfill so as to be available at all times to Landfill operating personnel.

7. These requirements do not exempt the Discharger from compliance with any other current or future law that may be applicable. They do not legalize this waste management facility, and they leave unaffected any further restraints on the disposal of wastes at this waste management facility that may be contained in other statutes.

8. This Order includes the attached "*Standard Provisions Applicable to Waste Discharge Requirements*", adopted November 7, 1990 (Attachment 2) which is incorporated herein by reference. ~~The Landfill continues to be subject to Regional Board Order No. 93-062 incorporating federal Resource Conservation and Recovery Act (42 USC section 6901, et seq.) regulations, which are also incorporated herein by reference. If there is any conflict between provisions stated herein and the standard provisions, Regional Board Order No. 93-062, or federal regulations, the provisions stated herein will prevail.~~ **Because requirements applying a federal assessment monitoring program and a federal corrective action program are incorporated into this Order, and federal requirements for composite liner systems have been implemented for the remaining permitted waste footprint, the Landfill is no longer subject to Regional Board Order No. 93-062 requirements. The Landfill continues to be subject to Regional Board Order Nos. R4-2006-0007 and R4-2008-0013, which are also incorporated herein by reference. If there is any conflict between provisions stated herein and the standard provisions or Regional Board Order Nos. R4-2006-0007 and R4-2008-0013, the provisions stated herein will prevail.**

9. The requirements adopted herein **neither** ~~do not~~ authorize the commission of any act causing injury to the property of another, nor protect the Discharger from liabilities under federal, state, or local laws.

10. The filing of a request by the Discharger for a modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any condition, provision, or requirements of this

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Order.

11. This Order does not convey any property rights of any sort, or any exclusive privilege.

12. The Discharger is the responsible party for these WDRs**, including any M&RP or other body of requirements incorporated by reference therein** ~~and any M&RP for the Landfill~~. The Discharger shall comply with all conditions of these WDRs. Violations may result in enforcement actions, including regional board orders, or court orders, requiring corrective action or imposing civil monetary liability, or in modification or revocation of these WDRs by the Regional Board.

13. The Discharger shall within 48 hours of a significant earthquake event, provide an initial verbal assessment to the Regional Board of any earthquake damage at the Landfill. A detailed post-earthquake report describing any physical damages to the containment features, groundwater monitoring and/or leachate control facilities and a corrective action plan to be implemented at the Landfill shall be submitted to the Regional Board with thirty days of the earthquake event. A significant earthquake is herein defined as an earthquake event above Richter Magnitude 5.0 within a 100 kilometer radius of the property boundaries of the Landfill site, or as measured as a VI on the Modified Mercalli Scale.

14. The Discharger shall immediately notify the Regional Board of any flooding, slope failure or other change in Landfill conditions which could impair the integrity of waste containment facilities or of precipitation and drainage control structures.

15. The Discharger shall submit to the Regional Board and to the Waste Board evidence of financial assurance for postclosure maintenance, pursuant to 27 CCR, division 2, chapter 6. The postclosure period shall be at least 30 years. However, the postclosure shall extend as long as wastes pose a threat to water quality.

16. ~~Within 90 days of the adoption of this Order, the Discharger shall submit to the Waste Board, in accordance with 27 CCR section 22222, assurance of financial responsibility in an amount acceptable to the Executive Officer for initiating and completing corrective action for all known or reasonably foreseeable releases from the Landfill.~~ **Section 22222 of 27 CCR requires WDRs for owner(s) or operator(s) of MSW landfills to contain a provision which requires the discharger to obtain and maintain assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill (27 CCR 22220 et seq.). The Discharger has not provided the Regional Board with a corrective action plan and corrective action cost estimate for all known or reasonable foreseeable releases from the Landfill. Within 90 days of the adoption of this Order, the Discharger**

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shall submit an assurance of financial responsibility for all known or reasonably foreseeable releases from the Landfill incorporating requirements of 27 CCR 22220 et seq. Once the corrective action cost estimate is reviewed and approved by the Regional Board Executive Officer, the Discharger shall work with Waste Board staff to provide acceptable financial assurance mechanisms for corrective action.

17. The Discharger shall comply with all conditions of this Order and any additional conditions prescribed by the Regional Board in addenda thereto. Noncompliance with this Order constitutes a violation of the CWC and is grounds for:

    a. enforcement action;

    b. termination, revocation and reissuance, or modification of this Order; or

    c. denial of a ROWD in application for new or revised WDRs.

18. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

19. This Order is not transferable to any person except after notice to the Executive Officer. The Regional Board may require modification or revocation and reissuance of this Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWC. The Discharger shall submit notice of any proposed transfer of this Order's responsibility and coverage as described under Provision No. H.5 of this Order.

20. In accordance with CWC section 13263(g), these requirements shall not create a vested right to continue to discharge and are subject to **being superseded or modified** ~~supercision or modification~~. All discharges of waste into the waters of the state are privileges, not rights.

21. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

22. This Order becomes effective on the date of adoption by the Regional Board.

23. This Order may be terminated or modified for cause, including, but not limited to:

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a. Violation of any term or condition contained in this Order;

b. Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;

c. A change in any condition that required either a temporary or permanent reduction or elimination of the authorized waste discharge.

24. This Order in no way limits the authority of the Regional Board, as **delineated** ~~contained~~ in the CWC, to require additional investigations and cleanups pertinent to this project. This Order may be revised by the Executive Officer as additional information from the project becomes available.

25. Failure to comply with the terms and conditions of this Order may result in imposition of civil liability against the Discharger by the Regional Board, either by the Regional Board or judicially by the Superior Court, in accordance with CWC section 13350 et. seq. and/or referral to the Attorney General of the State of California for such legal action as may be deemed appropriate.

26. Except for violation enforcement purposes, Regional Board Order No. 89-053, adopted May 22, 1989, and Order No. 00-077, adopted May 30, 2000, are hereby superseded, **as are requirements of** ~~. Because~~ Order No. 93-062 **specific to the Landfill.** ~~also applies to other municipal waste landfills in the region, incorporating federal regulations, it is~~ **Requirements for treated wood waste pursuant to Order No. R4-2006-0007 and solid waste disposal from wildfires pursuant to Order No. R4-2008-0013 are** not superseded, herein.

I, Tracy J. Egoscue, Executive Officer, do certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on ~~April 2~~ **May 7**, 2009.

_____
Tracy J. Egoscue
Executive Officer

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FIGURE 1:
LOCATION MAP

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FIGURE 2:
PROPERTY PARCELS

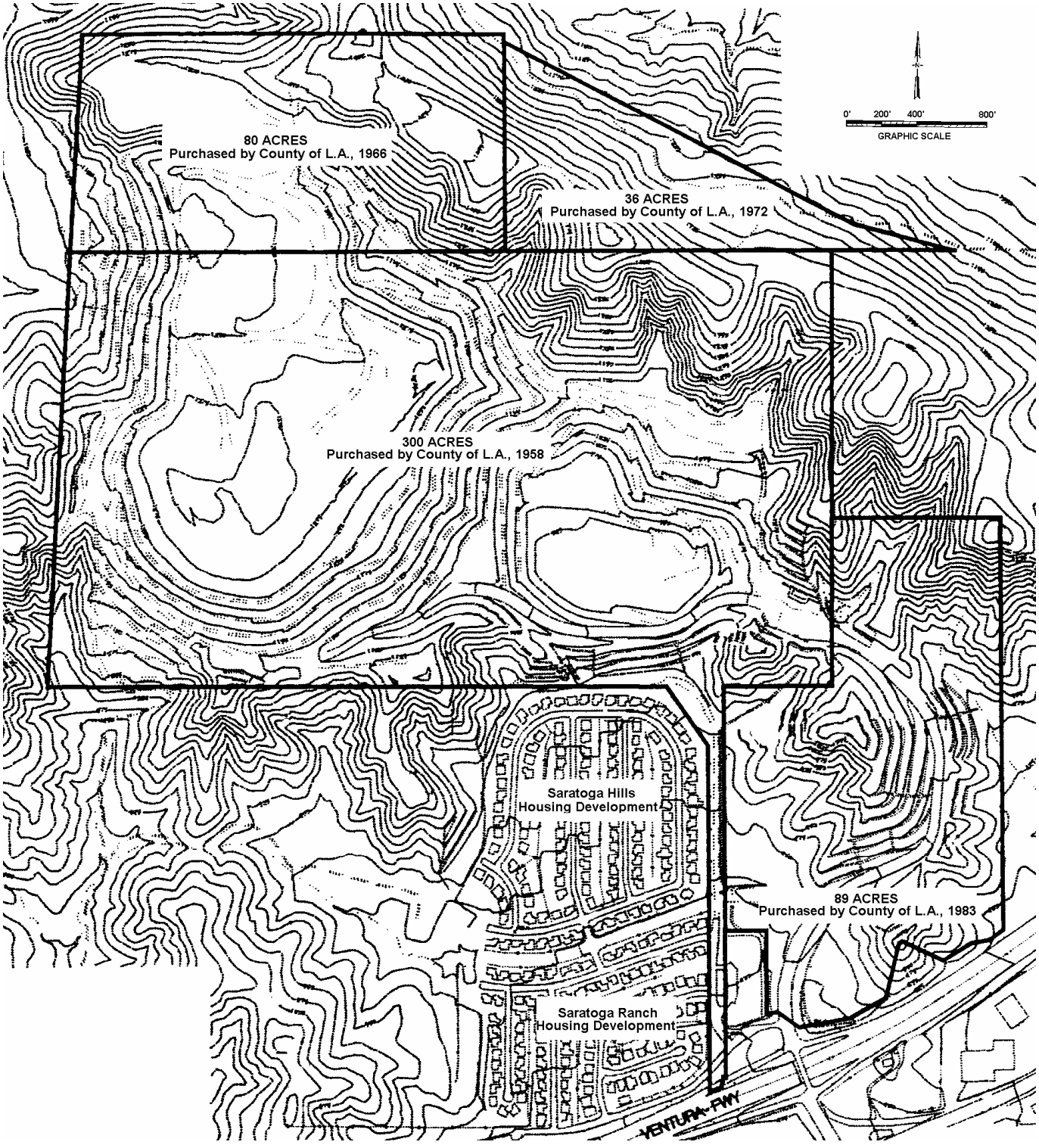

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FIGURE 3:
SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

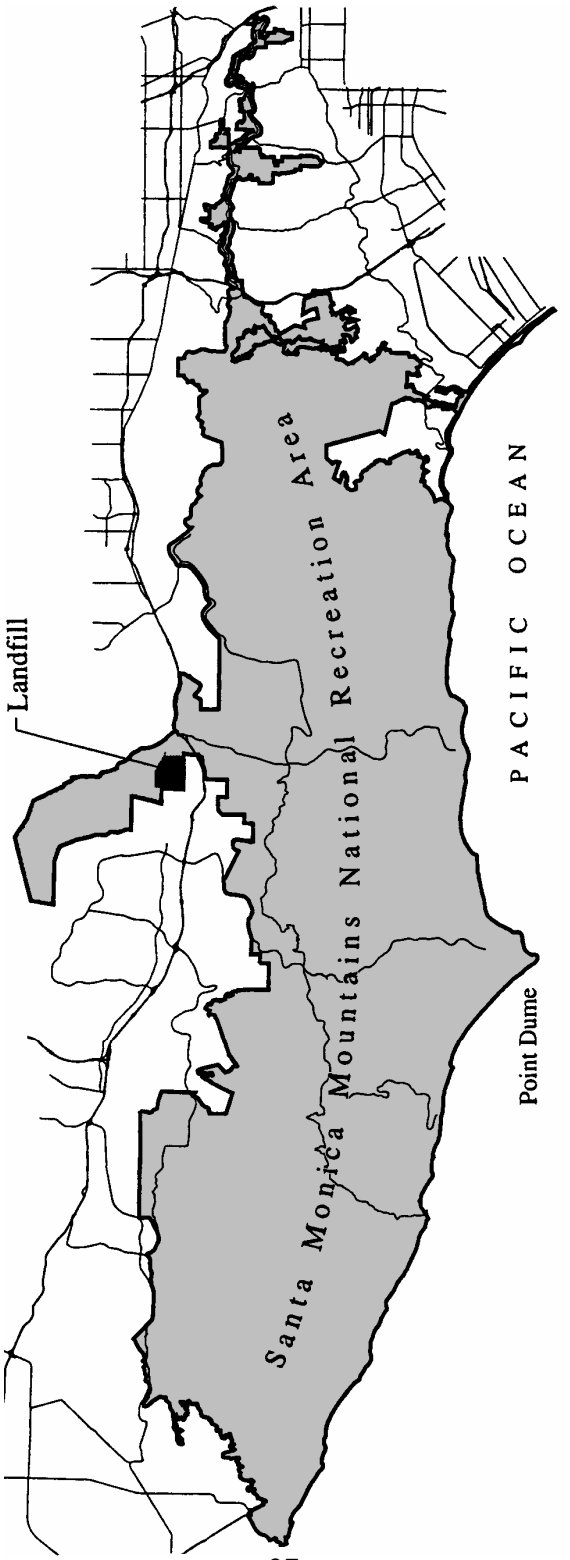

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FIGURE 4:
WATERSHED AREAS

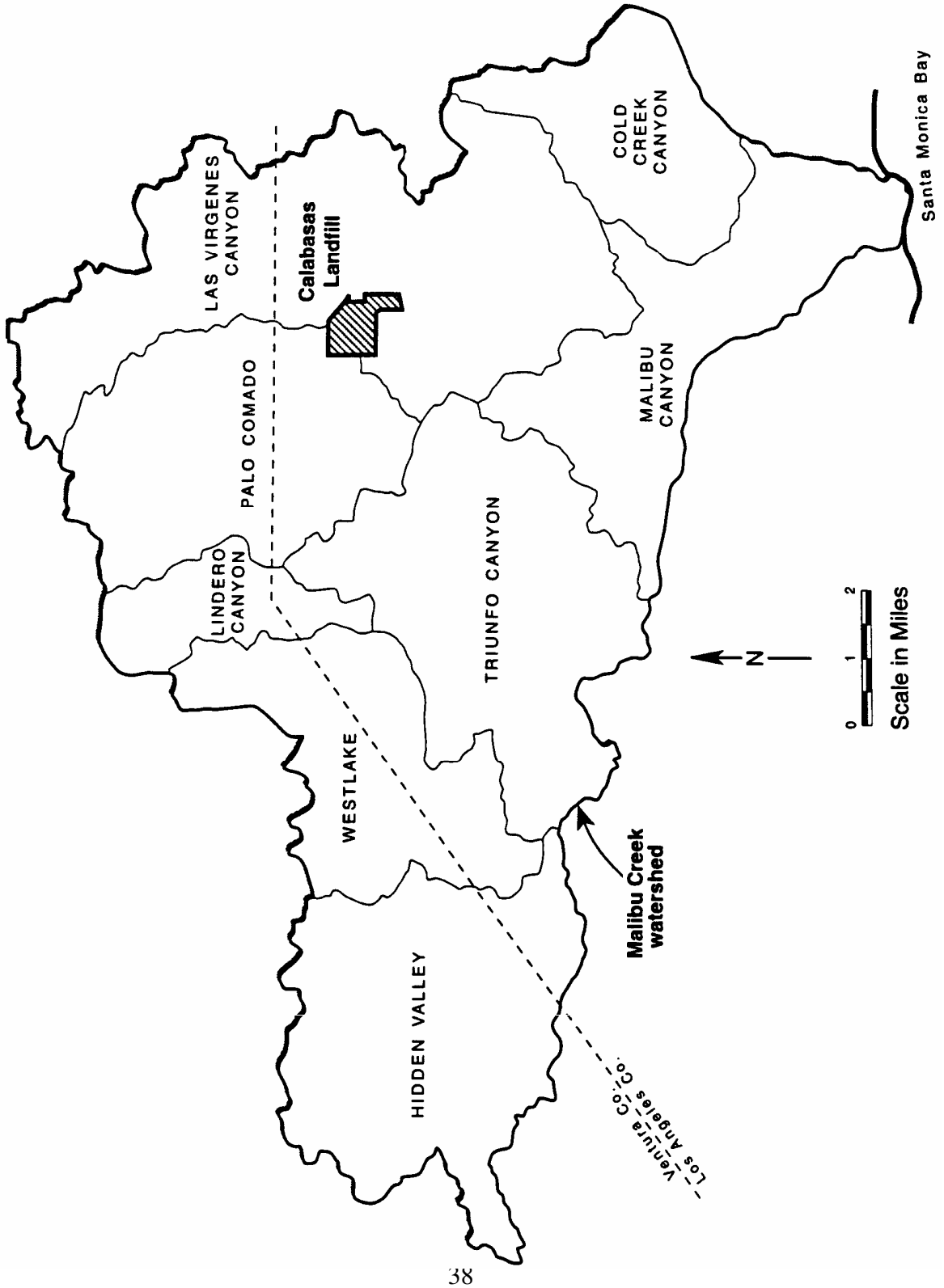

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FIGURE 5:
SUBSURFACE BARRIERS, COMPLIANCE GROUNDWATER MONITORING LOCATIONS, LINER AREAS, AND LCRSs

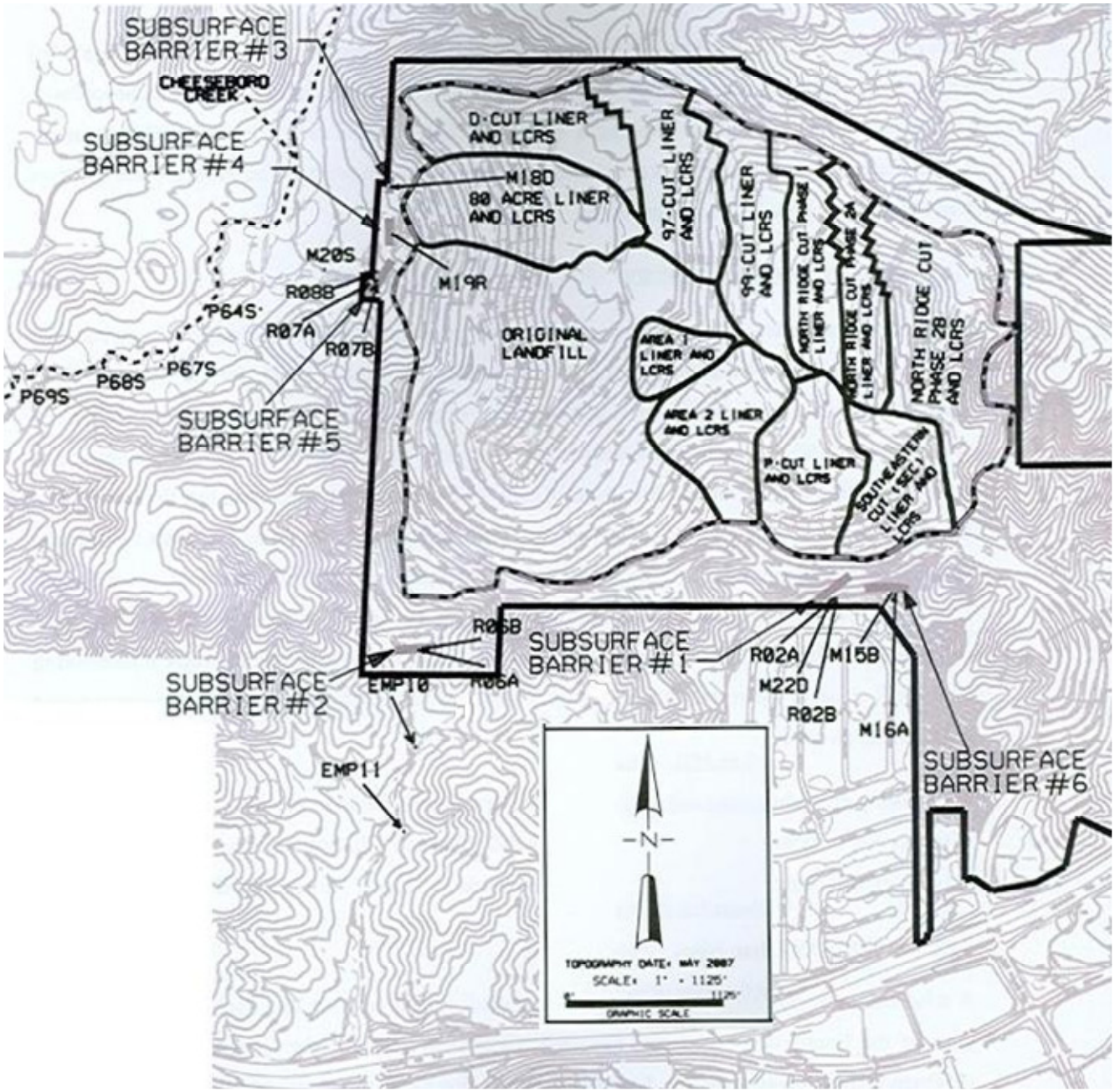

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FIGURE 6:
GROUNDWATER BASINS

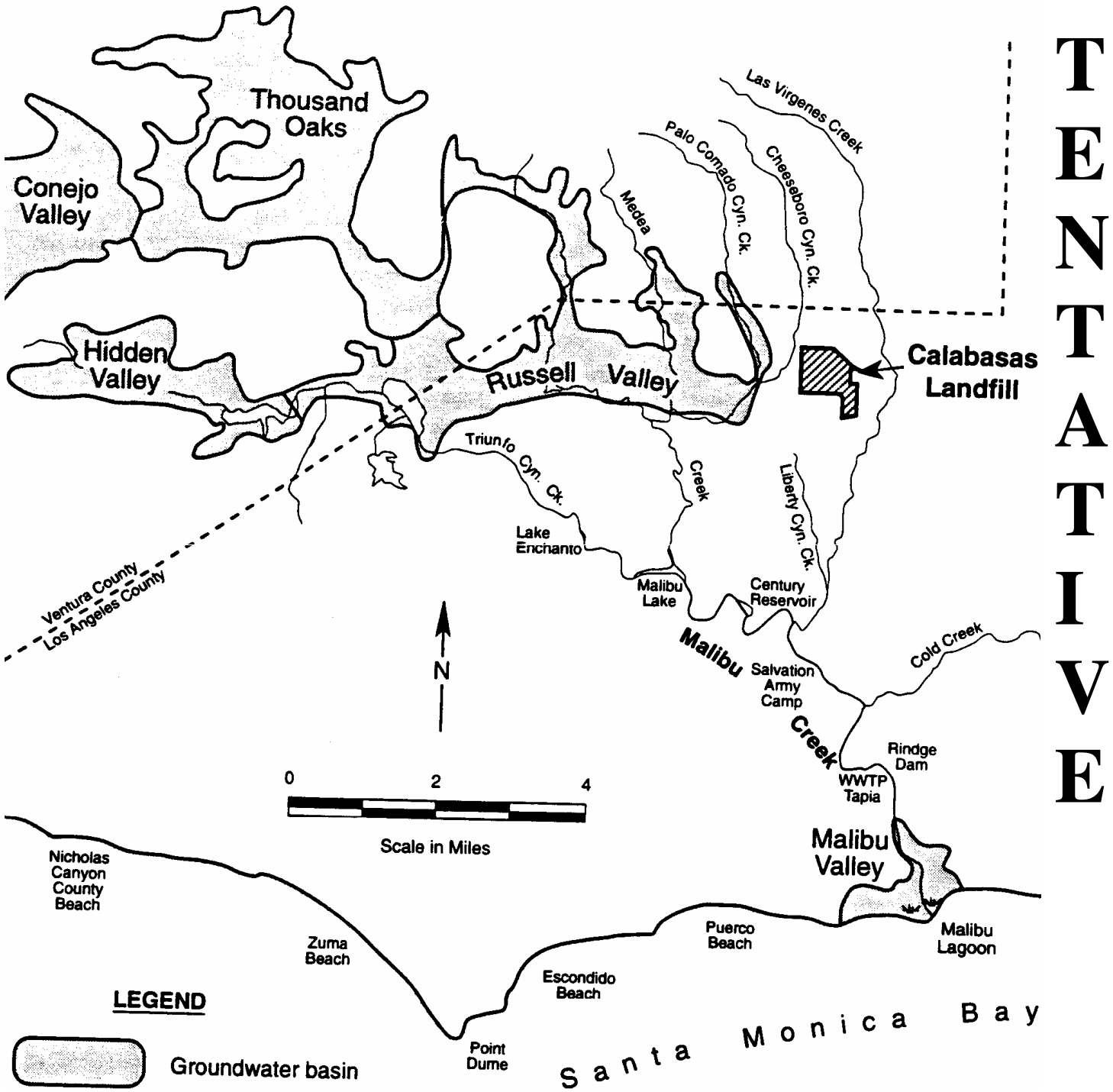

FIGURE 7:
SURROUNDING LAND USES

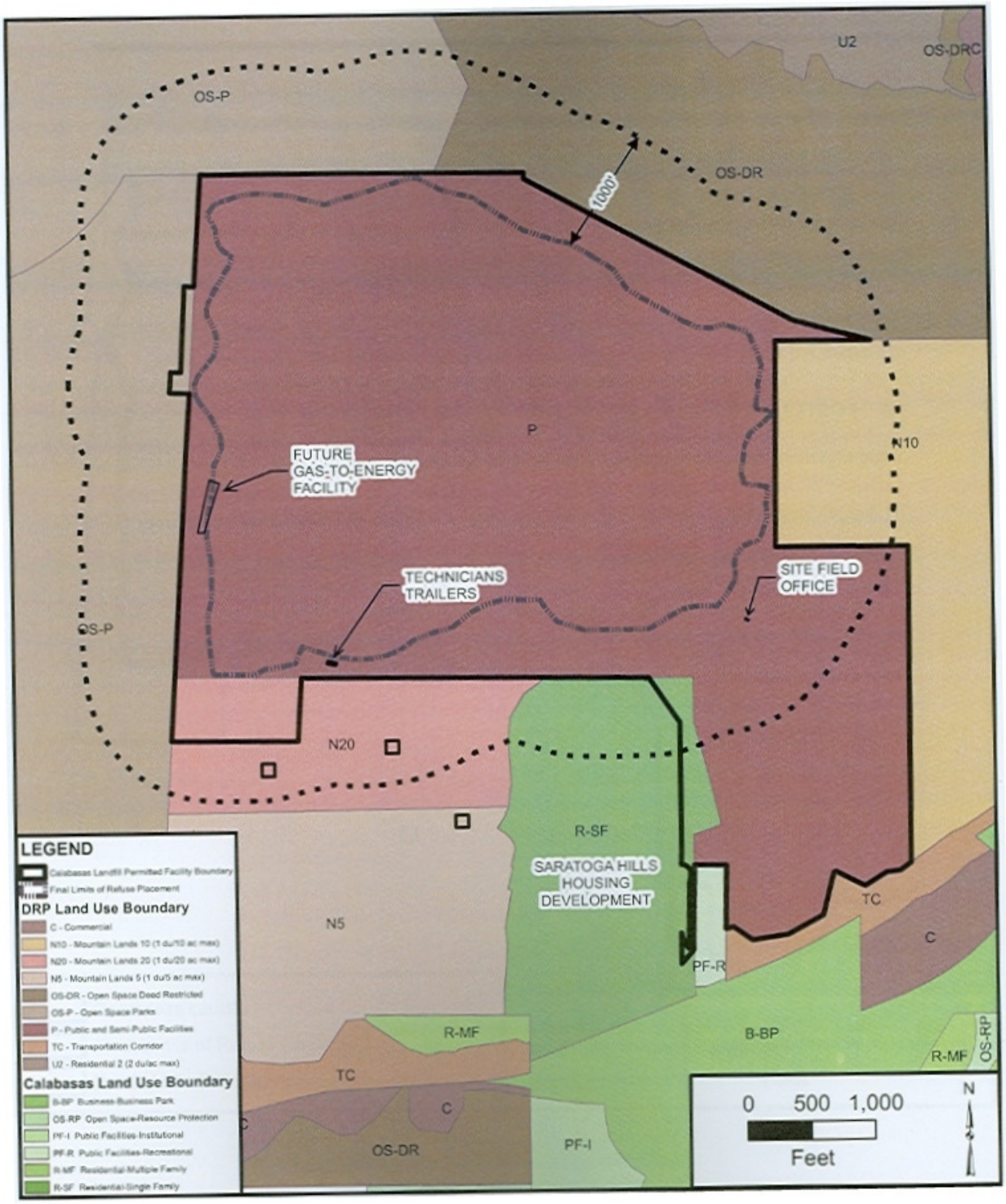

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FIGURE 8:
HAZARDOUS WASTE DISPOSAL AREA

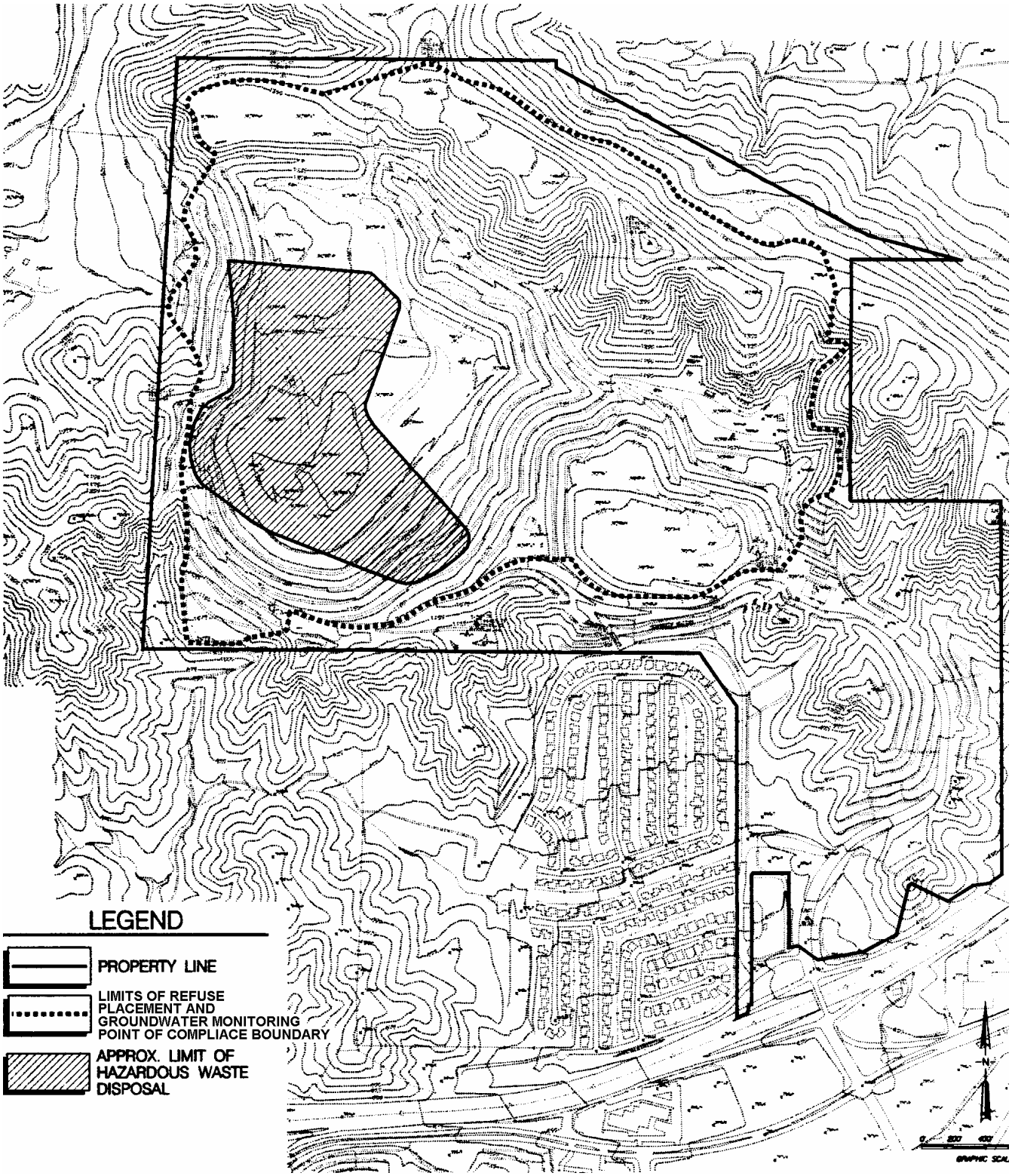

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FIGURE 9:
COMPOSITE LINER SYSTEMS

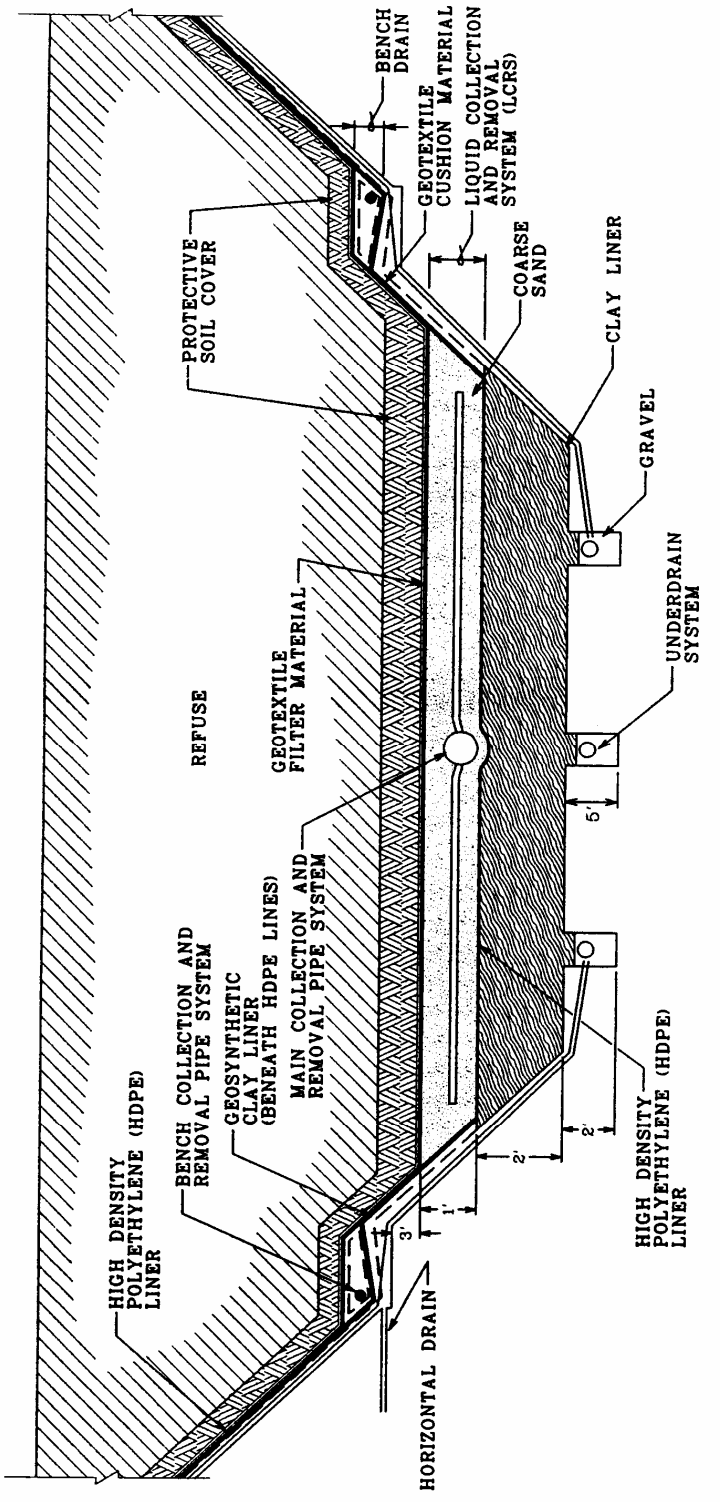

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FIGURE 10:
SUBSURFACE BARRIERS

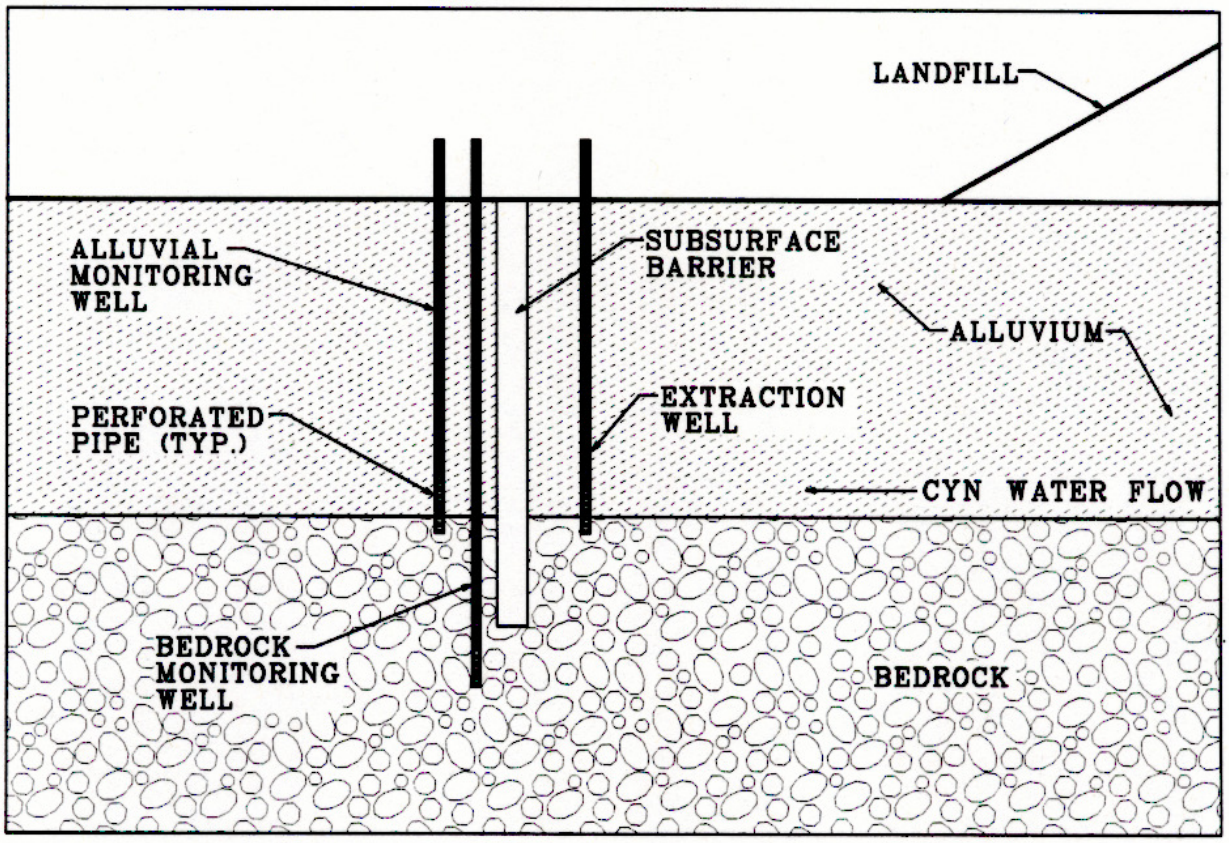

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FIGURE 11:
EXISTING ENVIRONMENTAL CONTROL MONITORING LOCATIONS

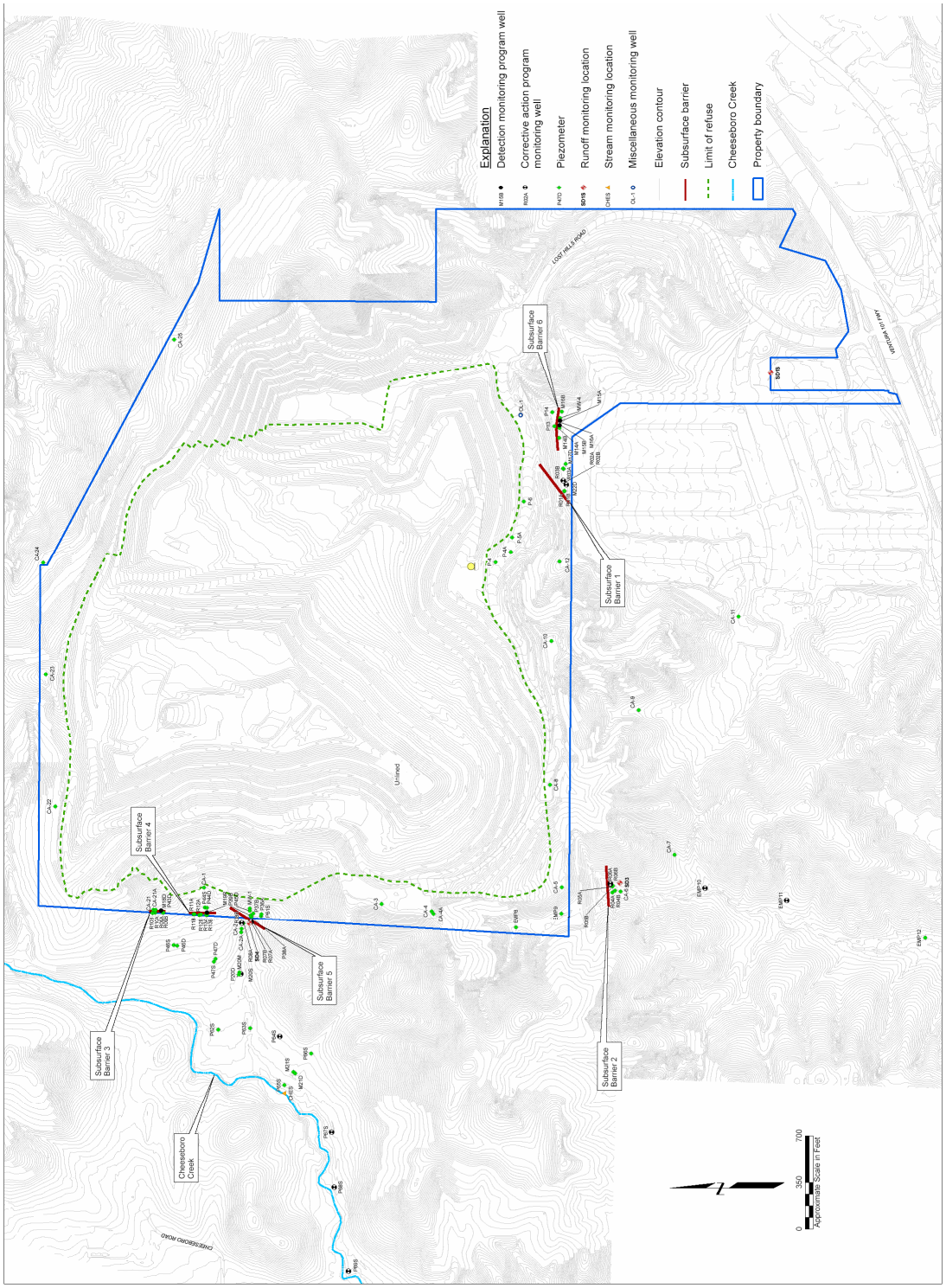

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FIGURE 12:
BARRIER 1 AND 6 COMPLIANCE MONITORING LOCATIONS

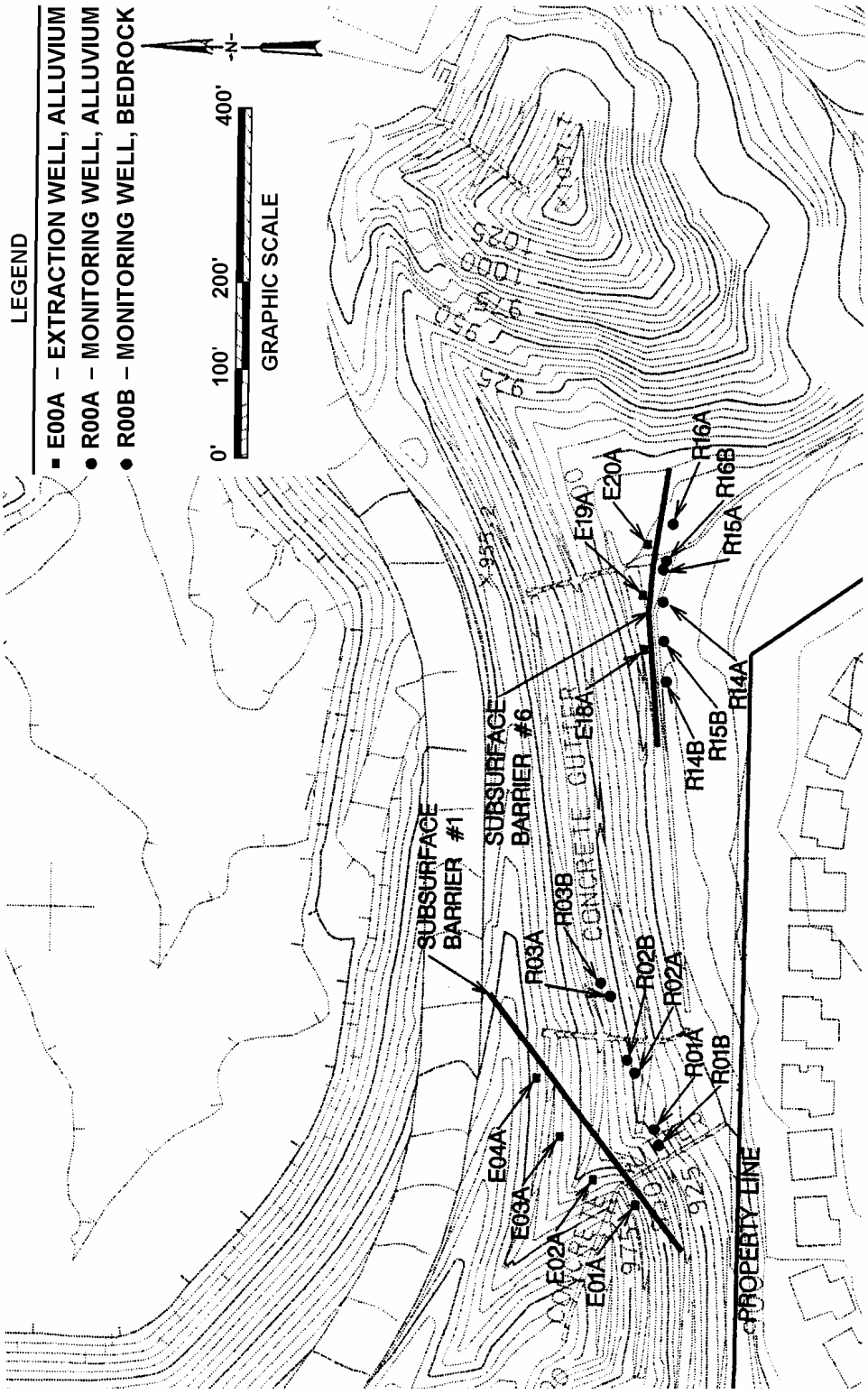

FIGURE 13
BARRIER 2 COMPLIANCE MONITORING LOCATIONS

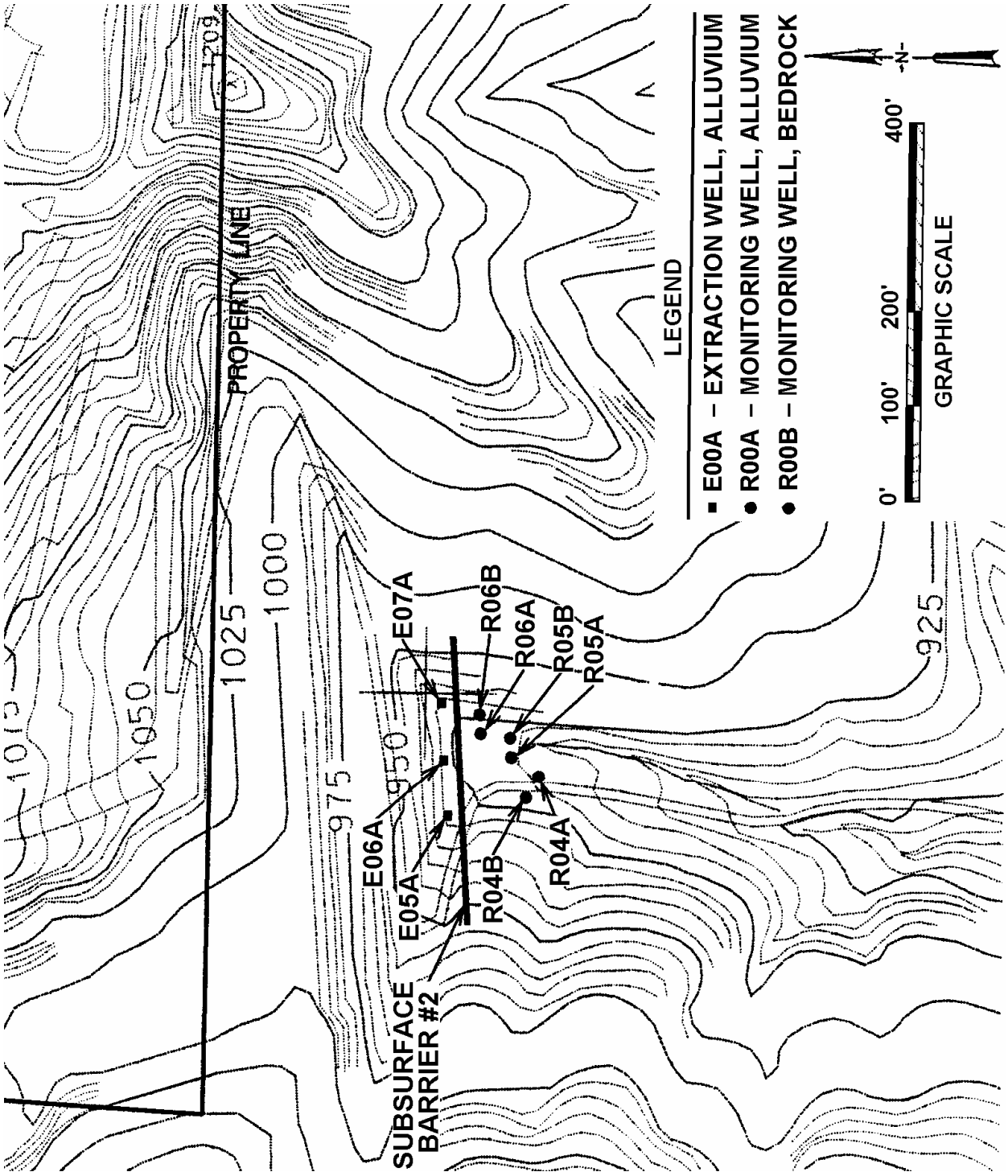

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FIGURE 14:
BARRIERS 3, 4 AND 5 COMPLIANCE MONITORING LOCATIONS

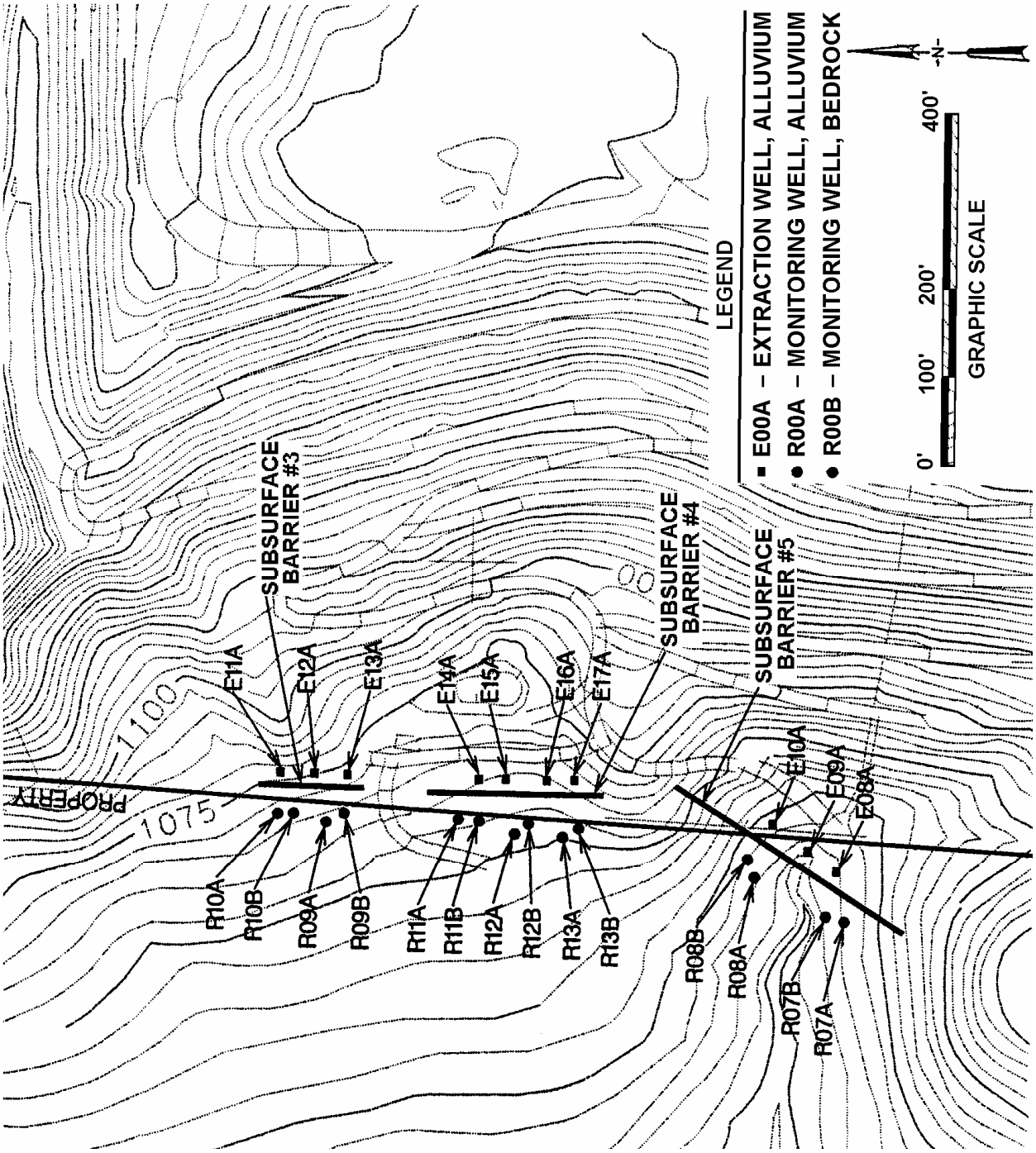

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FIGURE 15:
GAS MONITORING PROBE LOCATIONS

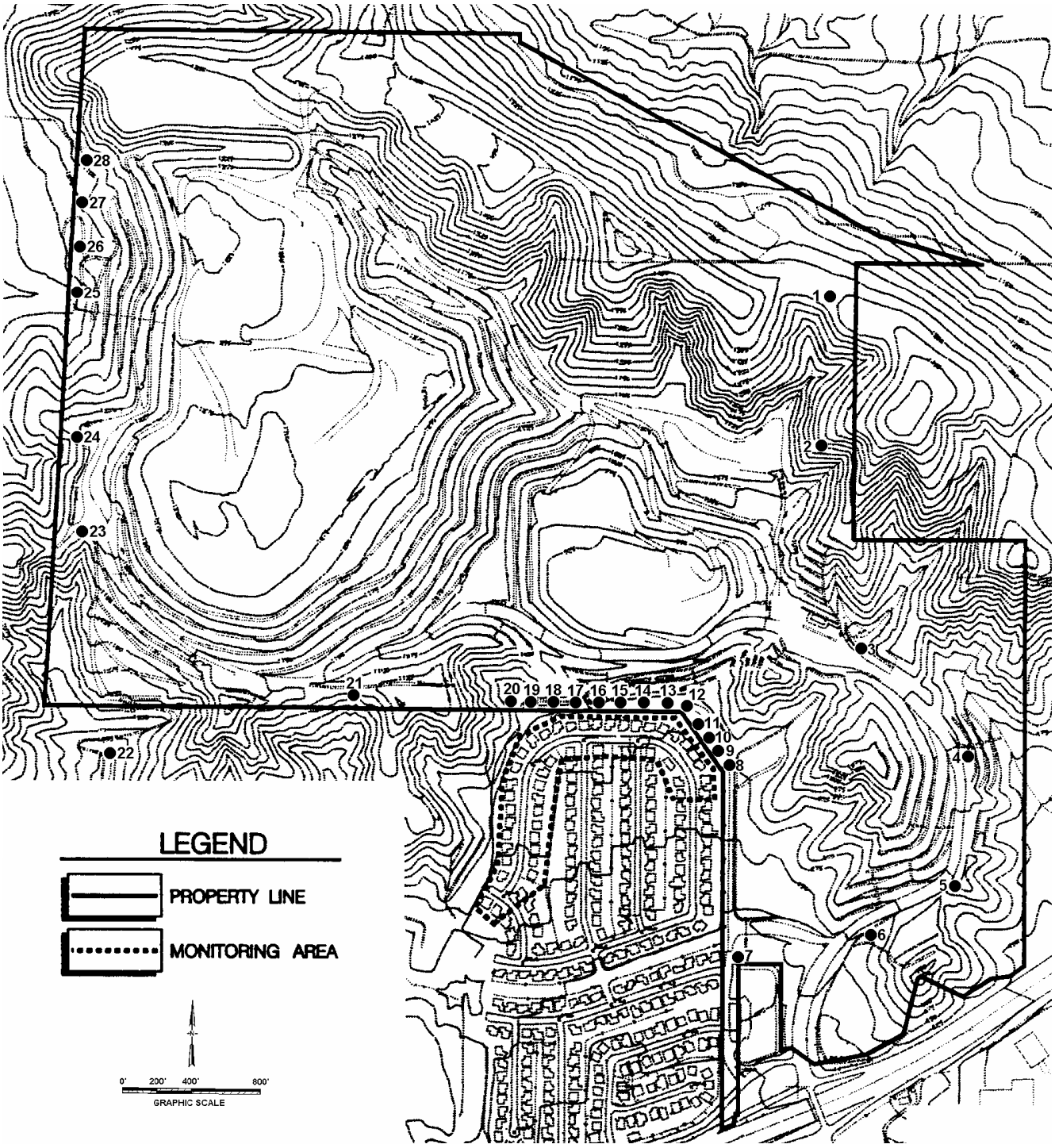
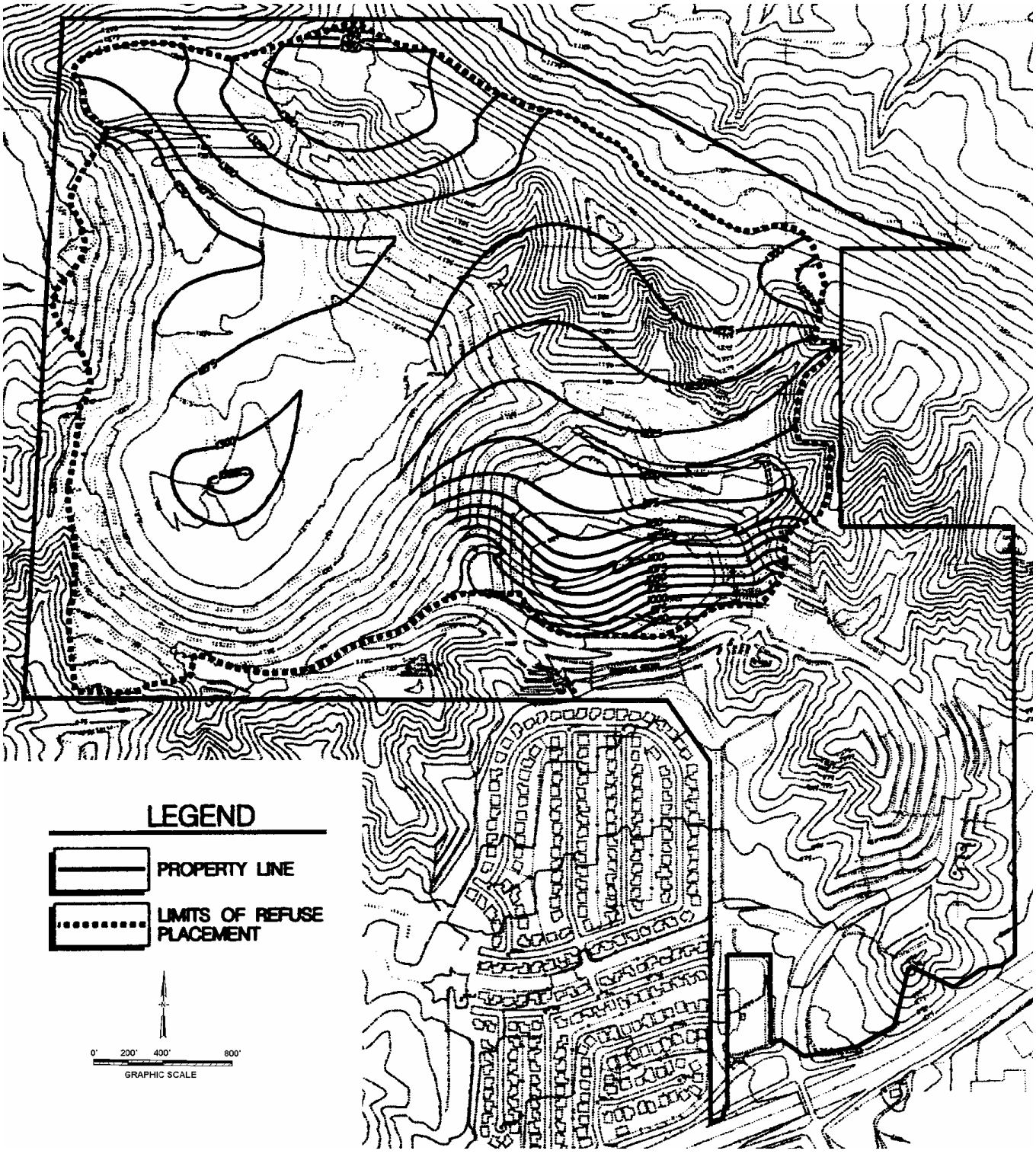


FIGURE 16:
FINAL FILL PLAN



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