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WASTE DISPOSAL, INC.

AMENDED RECORD OF DECISION

June 2002

Waste Disposal, Inc. Superfund Site
Santa Fe Springs, California 90670

United States Environmental Protection Agency
Region 9 - San Francisco, California

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ACRONYMS AND ABBREVIATIONS

The definitions below are provided as clarification for abbreviations.

AQMD	Air Quality Management District
ARAR	Applicable or Relevant and Appropriate Requirement
bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
BTU	British Thermal Units
CCC	California Civil Code
CCR	California Code of Regulations
CDI	Chronic Daily Intake
CDM	Camp Dresser & McKee
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CFR	Code of Federal Regulations
CHSC	California Health and Safety Code
CIWMB	California Integrated Waste Management Board
cm/sec	centimeters per second
COC	Chemical of Concern
DCE	Dichloroethene
DTSC	Department of Toxic Substance Control
EPA	United States Environmental Protection Agency
ERNS	Emergency Response Notification System
ERT	Environmental Response Team
FS	Feasibility Study
GCL	geosynthetic clay layer
gpd	gallons per day
gph	gallons per hour
GRA	General Response Action
H:V	Horizontal:Vertical
HI	Health Index
IRIS	Integrated Risk Information System
ITSL	Interim Threshold Screening Levels
km	kilometer
LCP	Leachate Collection Point
MCL	Maximum Contaminant Level
Mg/kg-day	daily milligrams per kilogram
msl	mean sea level
mg/L	milligrams per liter
NCP	National Contingency Plan
NI	Negative Impact
NNA	No Net Advantage or Disadvantage

NOAEL	no-observed-adverse effect level
NPL	National Priorities List
O&M	Operation and Maintenance
PAH	Polyaromatic hydrocarbons
PCB	Polychlorinated Biphenols
PCE	Tetrachloroethylene
PI	Positive Impact
ppbv	part per billion by volume
PPE	Personal Protective Equipment
ppm	past per million
PRGs	Preliminary Remediation Goals
PRPs	Potentially Responsible Parties
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RfD	Reference Dose
RI/FS	Remedial Investigation/Feasibility Study
RME	Reasonable Maximum Exposure
ROD	Record of Decision
RV	Recreational Vehicle
SARA	Superfund Amendments and Reauthorization Act
SF	Slope Factors
SFS	Supplemental Feasibility Study
SNL	Significant Negative Impact
SPI	Significant Positive Impact
STLC	Soluble Threshold Limit Concentration
SVE	Soil Vapor Extraction
SVOC	Semivolatile Organic Compounds
TBC	To Be Considered
TCA	Trichloroethane
TCE	Trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TI	Technically Impractical
TM	Technical Memorandum
TMV	Toxicity, Mobility or Volume
TRIS	Toxic Release Inventory System
TSDF	Treatment, Storage and Disposal Facility
μg/L	micrograms per liter
UST	Underground Storage Tank
VISTA	Vista Informational Systems, Inc.
VOC	volatile organic compound
WDI	Waste Disposal, Inc.
WDIG	Waste Disposal, Inc. Group
yd^2	square yards
yd^3	cubic yards

PART I - DECLARATION FOR THE AMENDED RECORD OF DECISION

A. Site Name and Location

Waste Disposal, Incorporated (WDI) (CERCLIS ID #980884357)
Los Nietos Road at Greenleaf Avenue and Santa Fe Springs Road
Santa Fe Springs, California 90670

B. Statement of Basis and Purpose

This decision document presents the amendment to the Selected Remedial Action for the Waste Disposal, Inc. (WDI) site in Santa Fe Springs, California. The original Record of Decision (ROD) for this site was signed on December 27, 1993. The original ROD and this Amended ROD present a remedial action that has been selected in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), CERCLA Sec. 117, and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) Section 300.435(c)(2)(ii).

This decision is based on the Administrative Record file for the site. This Amended ROD will become part of the Administrative Record file for the site in accordance with the NCP Sec. 300.825(a)(2). A copy of the Administrative Record is available for review during normal business hours at the Santa Fe Springs Public Library located at 11700 Telegraph Road and at the U.S. EPA Records Center located at 95 Hawthorne Street in San Francisco, California.

The U.S. EPA is the lead agency for this site. The California Department of Toxic Substances Control (DTSC) is a support agency. DTSC has concurred with the amended remedy selection.

C. Circumstances Requiring Amended ROD

This Amended ROD modifies the previously selected remedy for the contaminated soils and addresses groundwater conditions at the WDI site. This Amended ROD adopts the same general format as the original ROD, but incorporates and relies upon new information obtained since the signing of the original ROD in 1993.

Based on information that became available after the signature of the original ROD in 1993, EPA determined that an Amended ROD would be required to ensure protection of human health and the environment. The information that has become available concerning the site includes: the expanded lateral extent and volume of buried waste

on the site; new information on the nature and increased extent of soil gas beneath the site; and the presence of liquids inside the buried concrete-lined reservoir at the center of the site. EPA determined that this additional information was sufficient to warrant additional site investigations and further analysis of the potential remedy alternatives for the site.

The amended remedy selection process for this site has been based on information presented in the Supplemental Feasibility Study that was completed in May 2001. The Supplemental Feasibility Study presents a detailed analysis of remedial alternatives addressing the updated information regarding the nature and extent of contamination on the site.

D. Assessment of the Site

The response action selected in this Amended Record of Decision is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances to the environment.

E. Description of the Revised Remedy

This amended ROD selects the final remedy for the site and addresses waste materials, contaminated soil, subsurface liquids, subsurface gases, and groundwater conditions. These conditions will be remediated primarily through containment, collection and treatment of gases, collection and removal of site liquids, and institutional controls. EPA has also determined that there has been no demonstration that the site has contributed to exceedances of groundwater standards. To ensure continued protection of the groundwater, the revised remedy will incorporate groundwater monitoring and institutional controls (ICs), including groundwater ICs.

The major components of the revised remedy are as follows:

1. Installation of a RCRA-equivalent cap for hazardous waste over the existing reservoir (in Area 2);

2. Installation of engineered capping systems for areas outside the reservoir (in Area 2) that will be designed to achieve RCRA solid waste engineering and performance standards, including a hydraulic conductivity of 10^{-6} centimeters per second, and graded soil monofill covers, asphalt, concrete paving, and/or building foundations. Engineered capping systems will be installed over selected portions of Areas 1, 2, 4, 5, 6, 7, and 8;

3. Installation of a gas collection, extraction, and treatment system beneath the RCRA-equivalent cap over the reservoir in Area 2 to collect, remove and treat subsurface gases;

4. Installation of liquids collection systems including liquids collection points (LCPs) in the reservoir (Area 2), to monitor, collect, and extract leachate and free liquids for treatment and disposal at an off-site facility approved by EPA;

5. Use of engineering controls (e.g. physical barriers and/or indoor venting systems) at, and/or within, existing and new buildings overlying or adjacent to waste to prevent exposure to site contaminants. Existing buildings or structures in locations where it is not technically feasible to install engineering controls will be demolished and removed.

6. To minimize the potential exposure to soil gas, passive gas migration control (e.g. bioventing wells) or active soil vapor extraction systems will be installed along portions of the waste perimeter outside of the reservoir area and near existing buildings. Monitoring systems will be installed to ensure performance.

7. Implementation of institutional controls (ICs), including zoning ordinances, access controls, groundwater use restrictions, and restrictive covenants, to ensure the integrity of remedial systems, minimize the potential for exposure to residual wastes and hazardous substances, and to restrict land use and site access;

8. Implementation of long-term groundwater monitoring to ensure that the revised remedy is not contributing to exceedances of groundwater standards; and

9. Implementation of long-term operations and maintenance (O&M) to ensure that all environmental systems and control components are functioning effectively.

No significant impacts from WDI wastes on groundwater quality have been identified based on groundwater sampling and the comparison of sampling data with the locations and characteristics of waste sources at the site. Some contaminants are detected upgradient, laterally distant from the WDI waste sources, and in relatively deep water bearing zones. Although several chemicals of concern (volatile organic chemicals and metals) have been detected above their respective State drinking water maximum contaminant levels (MCLs) in groundwater samples, these exceedances do not appear to be related to site wastes based on their distribution in groundwater. MCL exceedances have been limited to several upgradient or deep monitoring wells. However, exceedances are absent from shallow or intermediate depth wells downgradient from the WDI waste sources. After extensive monitoring, EPA has determined that the site has not contributed to exceedances of groundwater MCLs. EPA has accordingly made the decision not to maintain a separate operable unit for groundwater and will incorporate groundwater monitoring and institutional controls to restrict use of groundwater underlying the site into this revised remedy. In the original ROD, EPA contemplated a separate operable unit for groundwater. This amended

ROD, therefore, serves as the final record of decision for the entire site. As a final remedy, this amended ROD incorporates long-term operations and maintenance (O&M) into the revised remedy.

F. ROD Data Certification Checklist:

The following information is included in the Decision Summary (Part II) of this Amended ROD:

- Chemicals of Concern (COCs, Section E), and their respective health-based concentrations (Section L);
- Summary of site risks represented by the COCs (Section G);
- Cleanup levels and performance standards established for the COCs (Section L);
- How source materials constituting principal threats are addressed (Sections H and I);
- Current and reasonably anticipated future land use assumptions and current and potential future beneficial uses of groundwater used in the risk assessment and amended ROD (Section F);
- Potential groundwater use that will be available at the site as a result of the Revised Remedy (Section F);
- Estimated capital, annual O&M, and total present worth costs, discount rate, and the number of years over which the remedy cost estimates are projected (Section L); and
- Key factors that led to selecting the remedy (Section L).

Additional information can be found in the Administrative Record file for this site.

I. Statutory Determinations

The revised remedy is protective of human health and the environment, complies with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. This remedy uses permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable for this site. However, because treatment of the principal threat of the site was not found to be practicable, this remedy does not satisfy the statutory preference for treatment as a principal element. Consistent with the NCP and EPA guidance and

directives, including *Guidance for Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Sites* (EPA OSWER Directive 9355.3-11, February 1991), and *Presumptive Remedy for CERCLA Municipal Landfill Sites* (EPA Directive 9355.0-49FS, September 1993), EPA has selected containment as the presumptive remedy to address the low-level threat from the site.

Because this remedy will result in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure, a review will be conducted at least once every five (5) years after commencement of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment pursuant to Section 121(C) of CERCLA, 42 U.S.C. §9621(C).

John Kemmerer
Chief, Site Cleanup Branch
Superfund Division
United States Environmental Protection Agency
Region 9

6/21/02
Date

PART II - DECISION SUMMARY

A. Site Name, Location, and Description

The Waste Disposal, Incorporated (WDI) site consists of approximately 43 acres located in an industrial area on the east side of Santa Fe Springs in Los Angeles County, California. The site boundaries include Santa Fe Springs Road on the northwest, a warehouse and a private high school on the northeast, Los Nietos Road on the southwest, and Greenleaf Avenue on the southeast. A residential area lies to the east of the site.

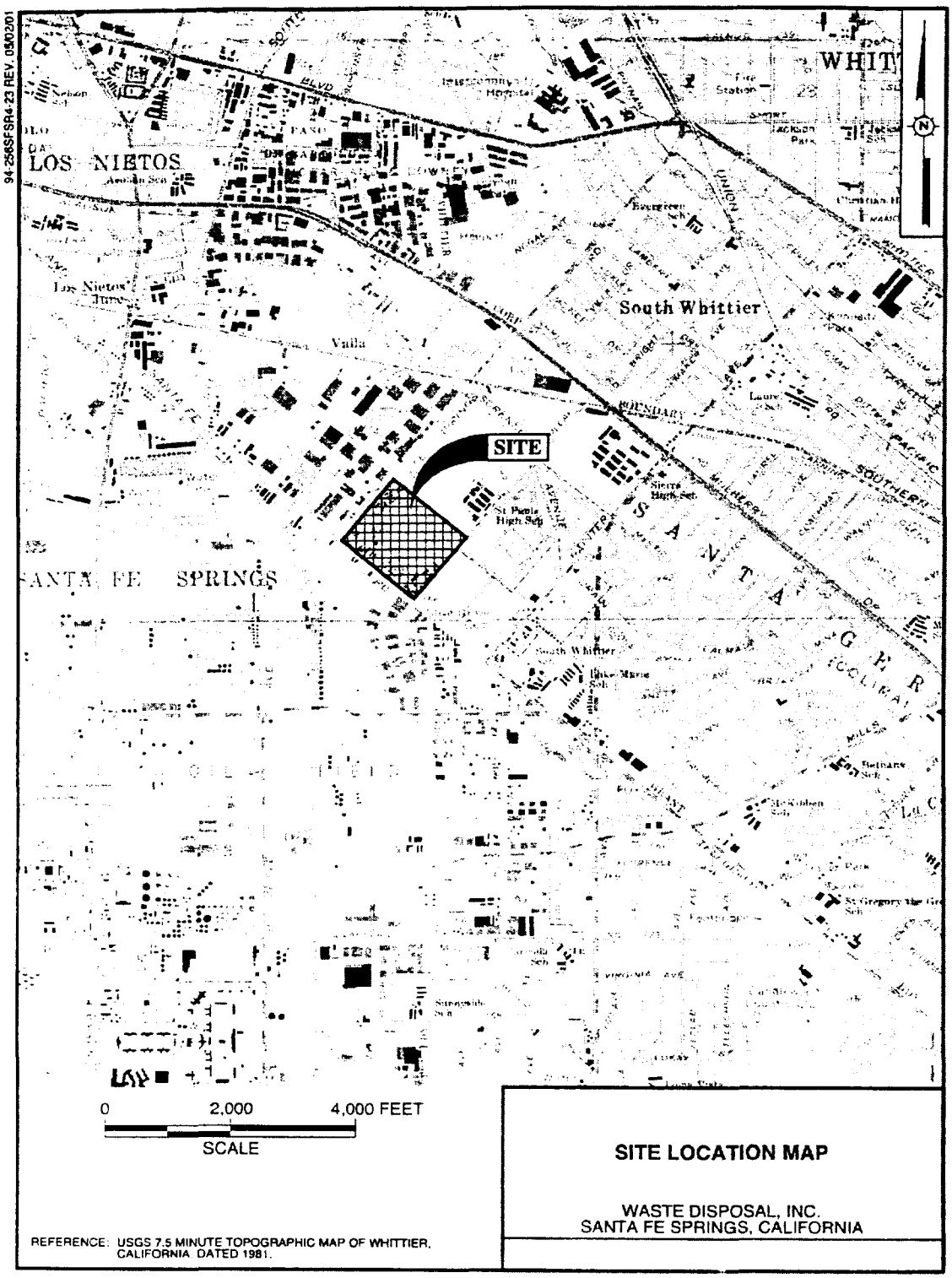
The CERCLIS ID number for the site is: CAD980884357.

The U.S. Environmental Protection Agency (EPA) is the lead agency for the site. The California Department of Toxic Substances Control (DTSC) is a support agency. DTSC has concurred with the amended remedy selection.

EPA is issuing this Amended ROD as a result of additional information that became available since the issuance of the original ROD for the site in 1993. This additional information relates to the expanded areal extent of waste and contaminated soils at the site, as well as additional soil, groundwater, and soil gas characterization data that were obtained since issuance of the original ROD.

Funding for site remediation is expected to be provided through settlements with potentially responsible parties. The site conceptual model and remediation strategy address the site as a landfill by utilizing remedy components including containment (i.e. capping), liquids and gas monitoring and control, engineering controls, access and institutional controls, groundwater monitoring, and long-term operations and maintenance (O&M).

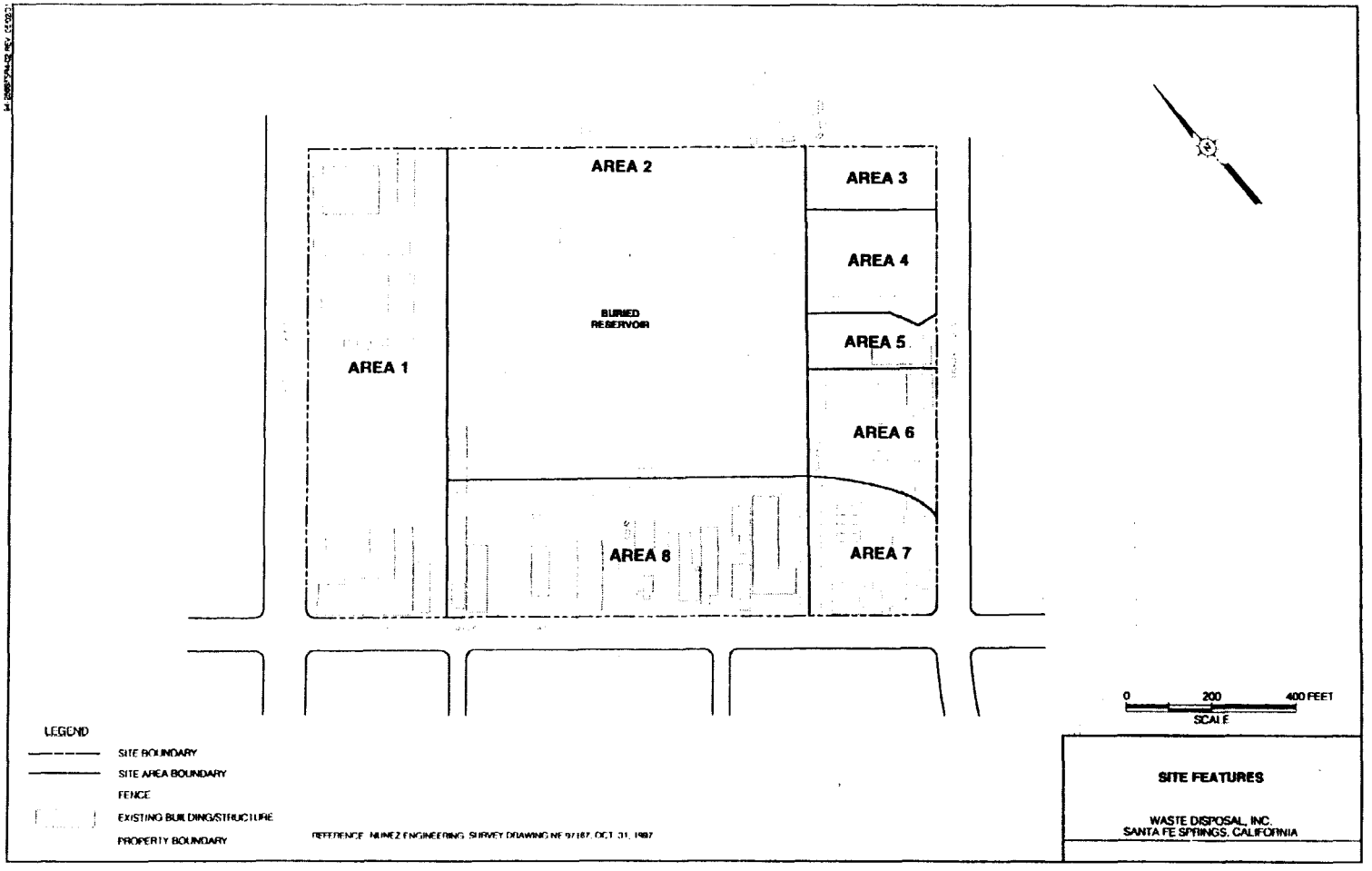
The 43-acre site consists of 22 parcels of land that are owned by 17 individual landowners. A buried 42-million gallon reservoir (600 feet in diameter and 25 feet deep), located in the center of the site, was used for the disposal of a variety of liquid and solid wastes. In addition, wastes were disposed of outside of the reservoir (in Area 2) and have been delineated in many of the parcels located around the perimeter of the reservoir. Twenty structures are located on-site and have been used for past and current small business activities. See Figure 1 for a site location map. Figure 2 shows a site layout map by Area (eight waste handling areas have been identified based on reviews of aerial photographs, drilling logs, and other site investigations). See Figure 3 for a 1998 aerial photograph of the site.



WASTE DISPOSAL, INC.

AMENDED RECORD OF DECISION

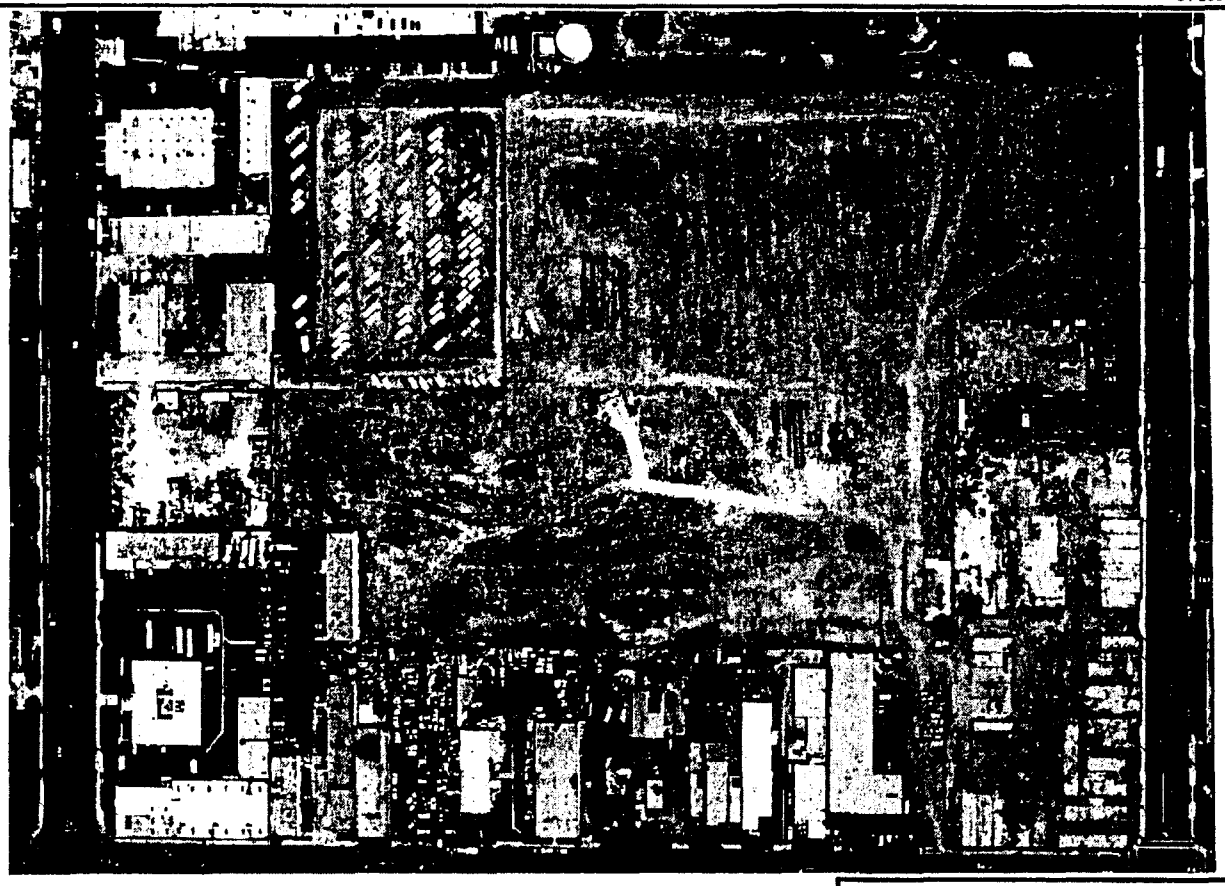
Figure 1
Site Location



WASTE DISPOSAL, INC.
AMENDED RECORD OF DECISION

Figure 2
Site Areas

94-258 RDISR1 REV. 8/12/99



AERIAL PHOTOGRAPH
AUGUST 5, 1998

WASTE DISPOSAL, INC.
SANTA FE SPRINGS, CALIFORNIA

WASTE DISPOSAL, INC.

AMENDED RECORD OF DECISION

Figure 3
1998 Site Aerial Photograph

B. Site History & Enforcement Activities

The most significant feature of the WDI site is the buried 42-million gallon concrete-lined reservoir (600 feet in diameter and 25 feet deep), located within Area 2 in the center of the site. The reservoir was constructed prior to 1924 and was initially used for crude petroleum storage. The areas outside of the reservoir began to be used for the unregulated disposal of a variety of liquid and solid wastes and the possible storage and mixing of drilling muds by the late 1920s. Sometime between 1937 and 1941, the owner/operators removed the reservoir cover anticipating a change of use. After removal of the reservoir cover, the reservoir was used from the early to mid-1940s until the mid-1960s for the disposal of a variety of liquid and solid wastes.

The disposal site operated under a permit from Los Angeles County from 1949 until 1964, and may have operated for roughly two to three years afterwards while the site was graded. Permitted wastes included rotary drilling muds, clean earth, rock, sand, gravel, paving fragments, concrete, brick, plaster, steel mill slag, dry mud cake from oil field sumps, and acetylene sludge. Investigations have shown that disposed materials also included, but were not limited to, the following unpermitted wastes: organic wastes, oil refinery wastes, solvents, petroleum-related chemicals, and other chemical wastes. Wastes were disposed within the reservoir and in areas adjacent to and outside of the reservoir.

While disposal activities continued during the 1950s, the reservoir and some of the areas of the site outside the reservoir were gradually developed for commercial and industrial use. By 1963, the reservoir was covered with fill and by 1964, most, although not all, disposal activities appeared to have ceased. Grading over the remainder of the buried wastes continued until approximately 1966. A number of structures were constructed for small business enterprises.

The site was placed on the National Priorities List (NPL) on July 22, 1987. Following the site's NPL listing, EPA issued General Notice Letters to 28 Potentially Responsible Parties (PRPs). The list included current and former property owners, generators, and transporters identified during the PRP search. At that time, no party came forward with a good faith offer to conduct the Remedial Investigation (RI), and EPA commenced the RI in 1988 as a "Fund-lead" project. In 1988, EPA also undertook a removal action, erecting a fence around the southern corner of the site at Los Nietos Road and Greenleaf Avenue to improve site security and prevent accidental exposure to contamination.

EPA completed the initial RI in November 1990 and commenced work on a Feasibility Study (FS). Considering comments from the State of California, EPA decided to undertake further groundwater sampling and analysis. In January 1992, EPA commenced additional groundwater monitoring at WDI in order to assess the possibility that the site had contributed to exceedances of groundwater standards.

In August 1993, EPA completed the Feasibility Study for contaminated soils and subsurface gases for Operable Unit #1 (OU1), and released the Proposed Plan. In December 1993, EPA signed a Record of Decision (ROD) for OU1. EPA designated a second operable unit (OU2) for groundwater and decided to reserve selection of a groundwater remedy pending completion of groundwater investigations. The 1993 ROD selected a remedy for OU1 that included excavation, reconsolidation, and containment of waste using a RCRA-equivalent capping system over the reservoir, with associated soil gas control and monitoring.

In 1994, EPA issued Unilateral Administrative Order (UAO) #94-17 to eight PRPs to compel commencement of Remedial Design (RD) activities for the site. EPA issued Amended UAO #97-09 in 1997 to add thirteen additional parties to the PRP working group, and ordered additional investigative activities at the site as well as continued remedial design activities. This PRP group, known as the Waste Disposal, Inc. Group (WDIG), has performed numerous site investigative and design activities at the site since 1994.

Based on new information compiled and obtained during additional investigative activities concerning the nature and lateral extent of waste and soil gas at the site, EPA determined that the ROD should be amended. This Amended ROD addresses fundamental changes in the scope, performance, and cost of the originally selected remedy. Work on the supplemental remedial design investigations and the Supplemental Feasibility Study continued from 1997 to May 2001. EPA and WDIG completed the Supplemental Feasibility Study in May 2001, and EPA held a public comment period and conducted a public hearing on the proposed plan for the revised remedy in June 2001.

Between 1992 and 2000, EPA and the WDIG conducted extensive groundwater investigations at the WDI site. Additional monitoring wells were constructed and sampled in conjunction with continued sampling of the existing monitoring well network. While groundwater sampling has identified some contamination in the vicinity of the WDI site, EPA believes that this contamination is not attributable to the WDI site (Groundwater Data Evaluation Report, 2000). To ensure protection of the groundwater, this Amended ROD incorporates groundwater monitoring and groundwater ICs as part of the remedy.

Table 1 presents a general chronology of the site history, including selected significant events and activities.

C. Community Participation

Community participation activities under the original ROD are summarized in Section 4.0 of the 1993 ROD. Refer to Table 1 of this Amended ROD for a listing of other community participation activities since 1993. Following completion of the

TABLE 1
CHRONOLOGY OF SIGNIFICANT CERCLA PROCESSES AND ACTIVITIES AT THE WDI SITE

DATE	EVENT/ACTIVITY
1986	Proposed NPL Listing
1987	Final NPL Listing
1987	General Notice issued to 28 PRPs
1987-1988	Removal Action (Fencing, Drum Removal)
1987-1989	Remedial Investigation (and report)
1989-1990	Endangerment Assessment
1992	Begin Groundwater Monitoring Activities
1993	Start of Feasibility Study
1993	Proposed Plan
1993	ROD Signature
1994	Administrative Unilateral Order 94-17
1994-1995	Predesign Investigations
1995	Predesign Report
1996	90% Remedial Design Report
1996	Community Meeting on 90% Design Report
1996	Public Meetings
1996	Decision to Review Remedy Selection & Prepare an Amended ROD
1997	Amended Administrative Unilateral Order 97-09 (to add additional generator PRPs and perform additional remedial design investigative activities)
1997-1998	Remedial Design Investigations
1997-1999	Pilot Scale Liquids Treatability Study (TM-13)
1997-2000	Continue Groundwater Investigations
1999	Community Meetings on Remedial Design
2000	Groundwater Data Evaluation Report
2001	General Notice re-issued to additional PRPs, including current owners
2001	Completion of Supplemental Feasibility Study
2001	Remedial Design Investigations Summary Report
2001	Public Meeting on Proposed Plan

Supplemental Feasibility Study for WDI in May 2001, EPA released the Proposed Plan for the revised remedy on June 1, 2001. At that time, EPA also announced that the updated Administrative Record file for the site was available, including additional Remedial Investigation reports, the Supplemental Feasibility Study, and the Proposed Plan. The Administrative Record File is located at the EPA Region 9 offices in San Francisco, and at the local information repository in the Santa Fe Springs Public Library in Santa Fe Springs, California. A public comment period was conducted from June 1 to July 2, 2001.

A public hearing on the Proposed Plan was held on June 14, 2001 in Santa Fe Springs and was attended by a variety of community and landowner representatives. At the public hearing EPA presented a summary of the proposed remedy for the site and answered questions concerning the elements of the remedy. Public comments were received and recorded at the meeting. Several written comments were also received during the Public Comment period. EPA's responses to both the oral and written comments received during this period are included in the Responsiveness Summary (Part III) of this Amended ROD.

D. Scope & Role of Operable Unit

The original 1993 ROD identified two distinct OUs for the WDI site:

Operable Unit 1 (Original):	Contaminated soil & soil gas
Operable Unit 2 (Original):	Contaminated groundwater

The 1993 ROD focused on OU1, addressing contaminated soil and soil gas. The ROD anticipated that OU2 for groundwater would be separately addressed at a later date. However, groundwater investigations conducted between 1998 and 2000 ultimately led EPA to determine that the WDI site has not caused exceedances of groundwater standards as defined by California maximum contaminant levels (MCLs). EPA accordingly has concluded that only continued groundwater monitoring and the use of ICs will be necessary to ensure that site-related hazardous substances do not contribute to exceedances of MCLs.

This Amended ROD presents the revised remedy for OU1 and incorporates OU2 by addressing all known contaminated media at the site. This Amended ROD serves as the final Record of Decision for the entire WDI site. This Amended ROD will address buried waste, contaminated soils, soil gas, liquids, groundwater monitoring, and ICs (including groundwater ICs), under the revised remedial action.

E. Site Characteristics

1. Site Overview

For descriptive purposes, the site has been divided into eight areas (Areas 1 through 8) as shown in Figure 2. The eight areas contain 22 parcels of land,19 of which contain various currently operating businesses (e.g. machine shops, auto repair shops, and light industrial complexes). Investigations have shown that 11 of the 19 parcels have structures located over buried waste. Three of the 22 parcels are currently unoccupied. Areas 1 and 8 of the site are occupied by several light industrial complexes and small commercial businesses. The buried 42-million gallon capacity reservoir is located in the central portion of Area 2. The northwestern portion of the reservoir area is covered with an asphalt parking lot and is currently used for recreational vehicle storage. The remaining portion of Area 2 is undeveloped. Areas 3 through 7 are adjacent to Greenleaf Avenue. Areas 3 and 4 are undeveloped and are the closest areas to nearby residential areas. One structure located in Area 5 is used for a commercial business. Areas 6 and 7 are also undeveloped and contain several concrete foundations that remain from previous structures.

The WDI site is located on property designated for industrial land use. Zoning for the site is M-2 Heavy Manufacturing. The City of Santa Fe Springs is highly supportive of commercial and industrial development in the area, and has been seeking to redevelop the WDI site for industrial land uses. The WDI site is within the Norwalk Boulevard Redevelopment Project Area, which has been merged into the Consolidated Redevelopment Project. EPA has provided a grant to the City of Santa Fe Springs under the Superfund Redevelopment Initiative program to prepare a master redevelopment plan for the parcels included within the WDI site. This Amended ROD anticipates that the existing land use designation will remain in effect, and that the site may be redeveloped at some point in the future for industrial purposes.

2. Location and Extent of Contamination

Soil borings were drilled at the WDI site for geologic logging and chemical characterization during two primary periods of investigation: the 1988 RI conducted by the EPA and the 1997 Remedial Design Investigations conducted by both EPA and WDIG. Constituents detected in waste include volatile organic compounds (VOCs), primarily benzene, toluene, ethylbenzene, and xylene (BTEX); semivolatile organic compounds (SVOCs); and heavy metals such as arsenic, chromium, copper, and lead. Waste and contaminated soil have been identified throughout Area 2, which contains the buried reservoir, and portions of Areas 1, 4, 5, 6, 7, and 8 where other buried wastes have been found. Figure 4 presents the estimated delineation of the extent of waste as reflected by current site information obtained from 1988 through 2001. The

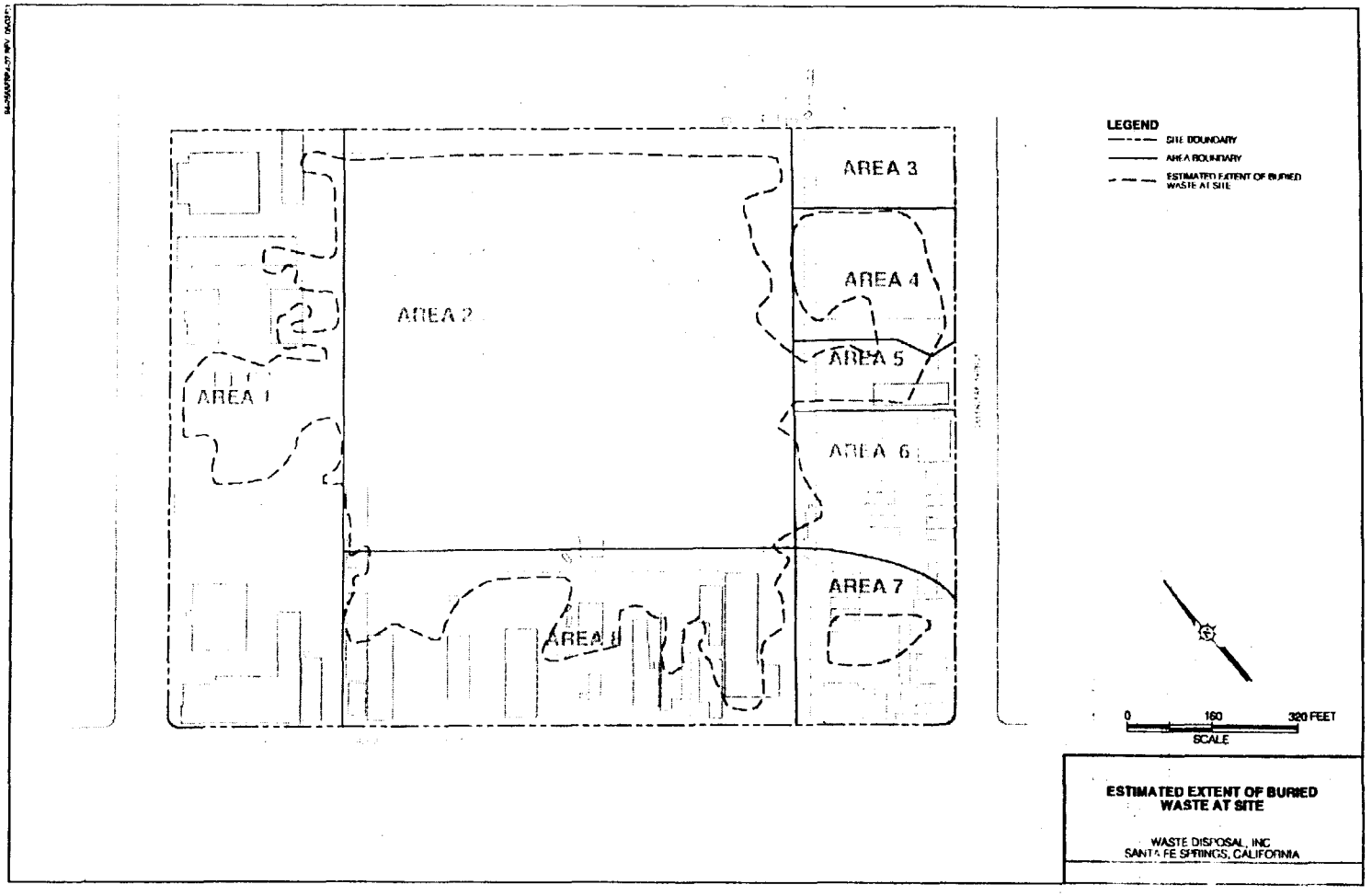


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Figure 4
Extent of Buried Waste

buried waste and impacted soil ranges in thickness from an average of approximately 5 to10 feet to a maximum of 20 feet.

3. Soil Gas

In-business air monitoring (sampling and analyses of ambient air within the building/business environment) at six existing structures has shown no indication of migration of site-related gas into on-site businesses.

Soil gas "hot spots" are present in the subsurface (vadose zone) within and outside the reservoir (in Area 2) in many areas of the site, including shallow fill soils, buried waste material, and deeper native soils. The "hot spots" are characterized by elevated levels (e.g., exceeding preliminary remediation screening levels) of BTEX, methane, petroleum hydrocarbons, and chlorinated volatile organic compounds (VOCs) in soil gas. Investigations have revealed that there are large variations in subsurface gas concentrations across the site area. Chloroform, trichloroethane, tetrachloroethene (PCE), benzene, methane, trichloroethene (TCE), and vinyl chloride have been detected. PCE is the most prevalent VOC detected in soil gas at the WDI site. TCE has the highest average concentration among the detected soil gas compounds and vinyl chloride shows the highest overall concentrations but has been detected at only a limited number of soil gas monitoring points. The primary constituents detected are methane, benzene, vinyl chloride, TCE, and PCE.

A pilot test was performed from 1997 to 1998 to assess the feasibility of high vacuum extraction for soil gas removal. Removal of subsurface gases at the site using high vacuum extraction has been shown to provide only limited effectiveness due to relatively low rates of gas generation, anisotropic conditions, and the low-conductivity character of the host media.

4. Liquids

Multiple investigations have indicated the presence of perched liquids and/or leachate both within the reservoir area (in Area 2) and at various isolated locations outside of the reservoir. Liquids were encountered within the reservoir at depths ranging between 4 and 12 feet below ground surface (bgs). In some portions of the reservoir, liquids appear to be perched above discontinuous, low-conductivity seams of waste materials. In other portions of the reservoir area, liquids appear to extend to the base of the reservoir. The distribution of liquids appears to reflect the manner in which wastes were disposed of (i.e., individual batches), resulting in the formation of isolated pockets of liquids of varying composition. The presence of liquids is associated with the presence of thin seams and discrete zones of low permeability fill/waste materials within the reservoir wastes. Liquids were also encountered outside the reservoir during the 1997 and 1998 field investigations conducted by WDIG and EPA.

Liquids investigations indicate that reservoir (in Area 2) liquids/leachate contain CERCLA hazardous substances, including but not limited to VOCs, such as benzene, toluene, ethylbenzene, and vinyl chloride; SVOCs; PCBs; and metals such as arsenic, chromium, and lead. In addition to the presence of liquids in the underlying waste, the 1997-1998 remedial design investigations indicated that liquids were also generated substantially through infiltration of surface rainwater rather than due to the presence of liquids in the underlying waste. A pilot scale liquids treatability study performed in 1999 assessed the potential for removal and treatment of site liquids. During the treatability study, approximately 129,350 gallons of aqueous liquids were extracted and treated along with 800 gallons of oily liquids. Extraction rates commenced at 120 gallons per hour and decreased significantly to 2 gallons per hour at the end of the 52-week study. Overall performance of liquids extraction was limited due to the heterogeneity and anisotropy of the waste mass. The study indicated that liquids removal might be technically feasible, but is cost-prohibitive due to the very low extraction rates. Installation of containment systems to prevent infiltration of rainwater will substantially inhibit the generation of liquids within the reservoir and the perimeter areas.

5. Groundwater & Hydrogeology

The WDI site is located in the Whittier area of the Los Angeles Central Groundwater Basin. WDI is underlain by unconsolidated recent alluvium and the Lakewood and San Pedro formations (primarily Pleistocene age fluvial sedimentary deposits). Based on extensive RI soil boring characterization, the subsurface stratigraphy and materials at the WDI site include:

- 5 -15 feet of fill material covering the concrete reservoir (in Area 2), waste containment areas, and most of the site;
- 10 - 25 feet of sandy clay and silt that underlie the fill and waste deposits;
- 50 feet of sandy, pebbly, channelized braided river (fluvial) deposits that underlie the near-surface interval;
- Groundwater that has been encountered at depths of 48 to 65 feet bgs;
- Interbedded sand and pebbly sand units underlie the shallower fluvial channelized deposits around 80 to 130 feet bgs. Although local low-conductivity layers/lenses occur throughout the site, a laterally extensive and continuous confining bed has not been identified either above or below the groundwater table.

The Groundwater Data Evaluation Report (U.S. Army Corps of Engineers and CDM Federal, 2000) presents detailed analysis of the hydrogeology at the WDI site. Figure 5 presents a hydrogeologic cross section of the WDI site. Regional data demonstrates

the presence of deeper water bearing zones extending in depth from 70 feet to approximately 1,000 feet bgs. The upper water bearing zone (estimated to be 100 feet or greater in thickness) appears to comprise a continuous and interconnected sandy aquifer interbedded with minor amounts of clay and silt. The deepest soil borings (100 to 130 bgs) drilled at the WDI site to-date have not identified laterally extensive confining beds within in the upper water-bearing zone. The maximum depth of the upper water bearing zone at the site is not known but may extend to depths of 150 to 200 feet bgs based on regional data. Below the upper aquifer zone are thicker and more extensive sand and gravel aquifers of the San Pedro Formation (to depths up to 1000 feet bgs). Groundwater flows generally southward, flowing radially southeast on the southeastern portion of the site and radially southwest on the southwestern portion of the site. The horizontal groundwater gradients are very low across the site ranging from 0.002 feet/foot in the western portion of the site to 0.003 feet/foot in the eastern portion of the site. The gradient steepens to 0.035 feet/foot in the southwestern corner of the site. See Figure 6 for a presentation of groundwater contours and flow directions as of September 1997. The vertical gradient varies across the site ranging from 0.008 feet/foot in the southwestern part of the site to 0.052 feet/foot in the southern central portion of the site. Groundwater flow rate or seepage velocity has been estimated to range from 6 to 60 feet/year based on assumed hydraulic conductivities soil characteristics present at the WDI site. The City of Santa Fe Springs owns and operates three municipal wells (located north [0.9 miles upgradient], west [1.3 miles], and south [4 miles] of the site) that are completed in deeper aquifers between 200 and 900 feet bgs. No wells in the vicinity produce water from the shallow groundwater zone that underlies the WDI site. As described in the 2000 Groundwater Data Evaluation Report, 1994 and 1995 water quality analyses for the water well south of WDI showed no detections for VOCs. 1997 analyses for the water well north of WDI showed PCE and TCE concentrations of 4.5 μg/l and 1.4 μg/l, respectively (1997). In addition, groundwater data at several nearby industrial sites northwest of WDI indicate much higher releases of these contaminants.

WDI is situated in a heavily industrial area and the production of oil from the Santa Fe Springs Oil Field has been ongoing since the early 1900s. As part of the Groundwater Data Evaluation, a Site Assessment Report was acquired from VISTA Information Solutions, Inc. (VISTA) that included information on sites within a 1.25-mile radius of WDI. As discussed in evaluations incorporated in the 2000 Groundwater Data Evaluation Report, upgradient and cross-gradient of the WDI site are several properties that have had confirmed solvent (PCE, TCE) releases. Groundwater investigations at three sites located to the northwest of WDI indicated concentrations of VOCs in groundwater that considerably exceed Federal and State MCLs (greater than 10,000 μg/l). The sites located upgradient of WDI have documented contamination at much

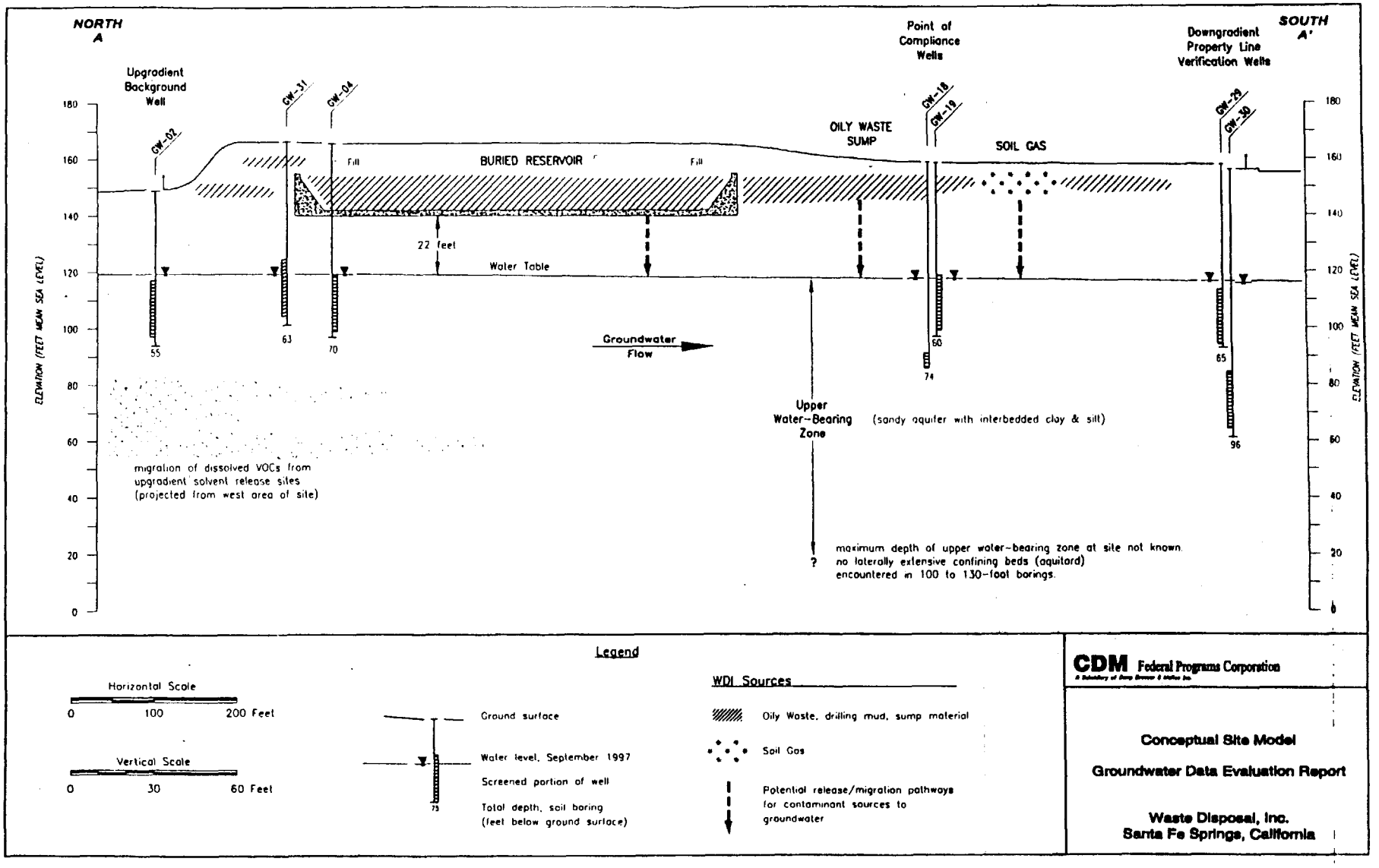

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Figure 5

Site Hydrologic Cross Section

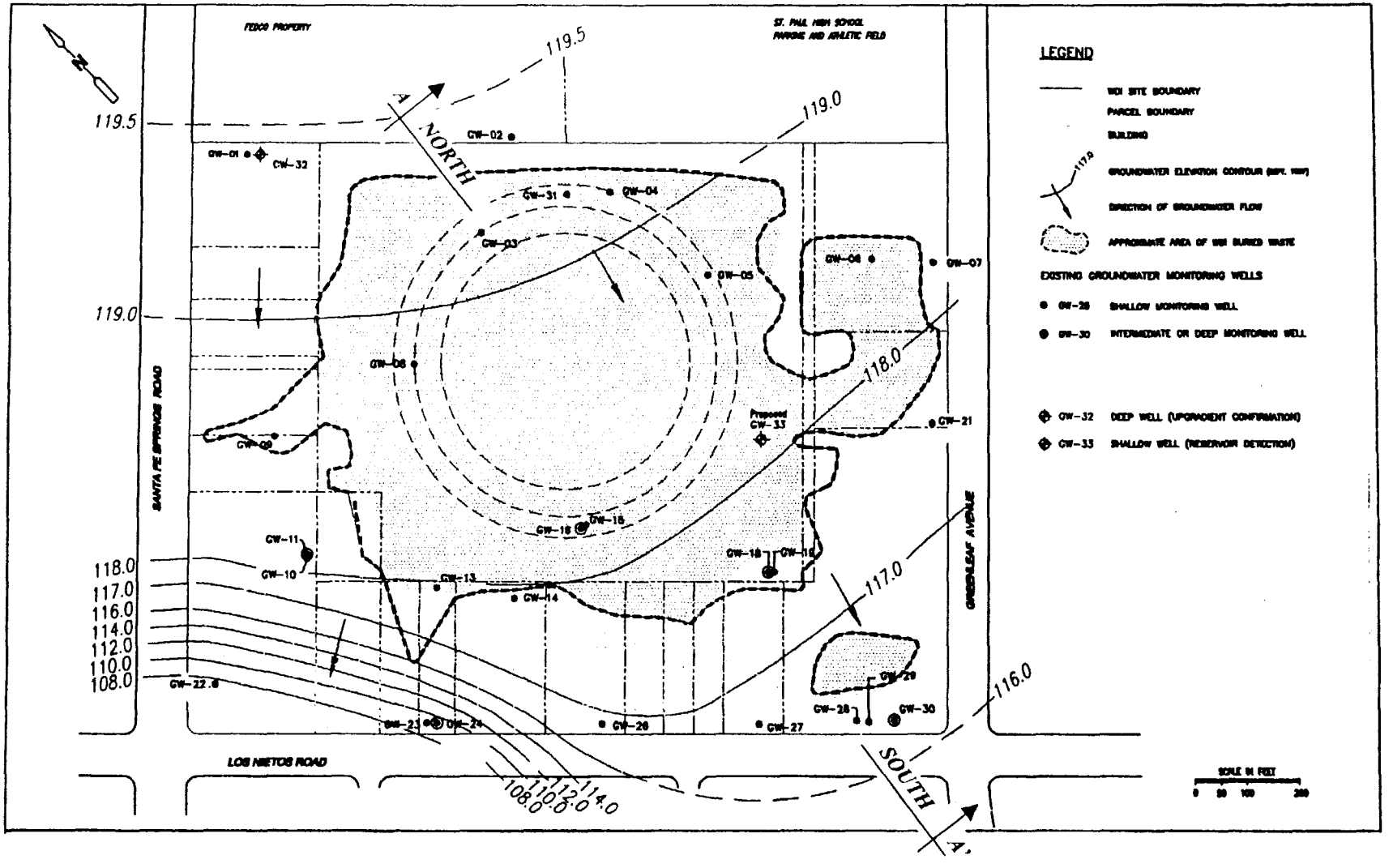

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Figure 6
Site Groundwater Contours and Flow Directions

higher concentrations than for any of the VOCs detected in groundwater at the WDI site. For these reasons, it is most likely that the PCE and TCE detected in groundwater monitoring wells in the western portion of the WDI site are related to solvent releases associated with the upgradient industrial sites. The Groundwater Data Evaluation Report and subsequent groundwater monitoring report the following conclusions:

- The primary VOCs detected in groundwater samples are PCE and TCE generally at concentrations less that 20 μg/l. PCE and TCE concentrations in two monitoring wells exceed their respective primary drinking water MCLs (5 μg/l). These VOCs have been detected only in the western portion of the site. The exceedances have been limited to upgradient and deep monitoring wells (screened to 128 feet bgs). Shallow and intermediate depth monitoring wells, including wells located immediately adjacent to deep wells with exceedances, show predominantly non-detects or minor detections below MCLs. Based on groundwater flow conditions, the distribution of detections, and information on offsite groundwater contamination sites (see discussion above), the sources of the PCE and TCE detected in the monitoring wells in the western portion of WDI appear to be from solvent releases associated with upgradient industrial sites.

- There appears to be no LNAPL or DNAPL sources contributing to groundwater contamination beneath the site since high concentrations (i.e., > 1,000 μg/l) of dissolved solvents or BTEX and evidence of oily sheen have not been observed in any of the groundwater sampling conducted at the WDI site.

- Groundwater sampling at WDI has not shown a consistent distribution or detection of the primary metals (arsenic, chromium, copper, lead) which are present at elevated concentrations in WDI wastes. The concentrations of these metals in groundwater are generally very low and have only exceeded their MCLs in isolated sampling rounds. Evidence of migration or impact to groundwater from metals in WDI waste has not been observed in the groundwater sampling data.

- Elevated concentrations of aluminum, iron, manganese, and selenium have been detected in groundwater samples, in local cases above primary or secondary drinking water standards. The fact that these metals are detected uniformly across the site (locally at higher concentrations in upgradient wells) suggest that the elevated concentrations reflect regional water quality conditions and are not related to onsite sources.

As recommended in the 2000 Groundwater Data Evaluation Report, two additional monitoring wells were installed at the WDI site to monitor conditions upgradient of (depth of about 120 feet bgs) and directly adjacent to and downgradient of the reservoir in Area 2 (approximate depth of 60 feet bgs). Analytical results available for 2001 showed no VOC detections for either of these wells.

6. Identification of Chemicals of Concern (COCs)

On-site soils contain oil well drilling muds, sludges, petroleum-related waste products, low concentrations of VOCs and SVOCs, low concentrations of pesticides and PCBs, arsenic, chromium, and lead. Subsurface gas includes methane along with various VOCs, such as benzene, chloroform, vinyl chloride, PCE, and TCE, among others. The primary risk drivers are benzene, with a soil gas standard of 10.0 parts per billion by volume (ppbv), and vinyl chloride, with a soil gas standard of 10.0 ppbv. The California Integrated Waste Management Board Methane Standards of 5.0 percent at the site boundary and 1.25 percent in on-site buildings are also considered media-specific health-based COC concentration limits.

EPA has used data that was collected during initial remedial investigations and substantiated during subsequent site investigation to identify chemicals of concern in soil, soil gas, and groundwater. See Table 2 for a listing of COCs that have been identified for the WDI site and their media of occurrence. The COCs identified in soil include 11 metals, 7 chlorinated pesticides, 16 VOCs, polyaromatic hydrocarbons (PAHs), and PCBs. Among those listed in Table 2, COCs identified for soil gas include benzene, carbon tetrachloride, chloroform, 1,2-dibromoethane, PCE, 1,1,1-TCA, TCE, and vinyl chloride. For groundwater, the COCs include arsenic, lead, manganese, mercury, toluene, carbon tetrachloride, chloroform, PCE, and TCE. Since the preparation of the 1993 ROD, EPA has identified additional chemicals of concern in groundwater and soil gas. Benzene, xylenes, and vinyl chloride have been added as COCs in groundwater. Chemicals added as COCs in soil gas include 1,2-dichloropropane, ethylbenzene, toluene, and xylenes.

7. Conceptual Site Model

Figure 7 summarizes the Conceptual Site Model (CSM) on which the risk assessment and remedial actions are based. The model addresses potential impacts to soil, air, and groundwater and illustrates contaminant sources, release mechanisms, exposure pathways, migration routes, and potential receptors. Key components of the model are described below.

a. Sources of Contamination from the WDI Site

The primary sources of contamination include solid and liquid wastes that were buried in association with operation of the WDI site. Additional sources comprise contamination that may be associated with the operations of numerous small businesses that have been developed on the site. COCs at the WDI site are listed in Table 2. The primary contaminant sources (buried concrete reservoir in Area 2, other

TABLE 2

CHEMICALS OF CONCERN FOR ALL SITE MEDIA
WASTE DISPOSAL, INC. SUPERFUND SITE

CONSTITUENT	SURFACE SOIL	SOILS (0-20 FT.)	GROUNDWATER	SUBSURFACE SOIL GAS
Inorganics				
Antimony	X	X		
Arsenic	X	X	X	
Cadmium	X	X		
Chromium	X	X		
Copper	X	X		
Lead	X	X	X	
Manganese		X	X	
Mercury	X	X	X	
Selenium	X	X		
Thallium	X	X		
Zinc		X		
Chlorinated Pesticides				
Aldrin		X		
gamma-BHC (lindane)		X		
Chlordane	X	X		
DDT, DDD, DDE	X	X		
Dieldrin	X	X		
Heptachlor		X		
Heptachlor Epoxide	X	X		
Volatile Organic Compounds (VOCs)				
Pentachlorophenol	X	X		
Benzene	X	X	X[1]	X
1,4 Dichlorobenzene		X		
Ethylbenzene	X	X		X[1]
Toluene	X	X	X	X[1]
Xylenes	X	X	X[1]	X[1]
Benxoic Acid	X	X		
2-Butanone	X	X		
Carbon Tetrachloride		X	X	X
Chloroform		X	X	X
1,2- Dibromomethane				X
1,2-Dichloroethane				X
1,1- Dichloroethene				X[1]
1,2,4-Trimethylbenzene				X[1]
1,2-Dichloroethene (cis)				X[1]
1,2-Dichloroethene (trans)				X[1]
1,2,Dichloropropane				X[1]
1,3,5-Trimethylbenzene	X	X		X[1]
Chloromethane				X[1]
Methylene Chloride	X	X		X[1]
Tetrachloroethene		X	X	X
1,1,1-Trichloroethane		X		X
Trichloroethene		X	X	X
Vinyl Chloride		X	X[1]	X
Polycyclic Aromatic Hydrocarbons				
Noncarcinogenic	X	X		
Carcinogenic	X	X		
Polychlorinated Biphenyls (PCBs)	X	X		
Methane				X

1) Added for Amended ROD.

Figure 7: CONCEPTUAL SITE MODEL (CSM) for WASTE DISPOSAL, INC. SUPERFUND SITE

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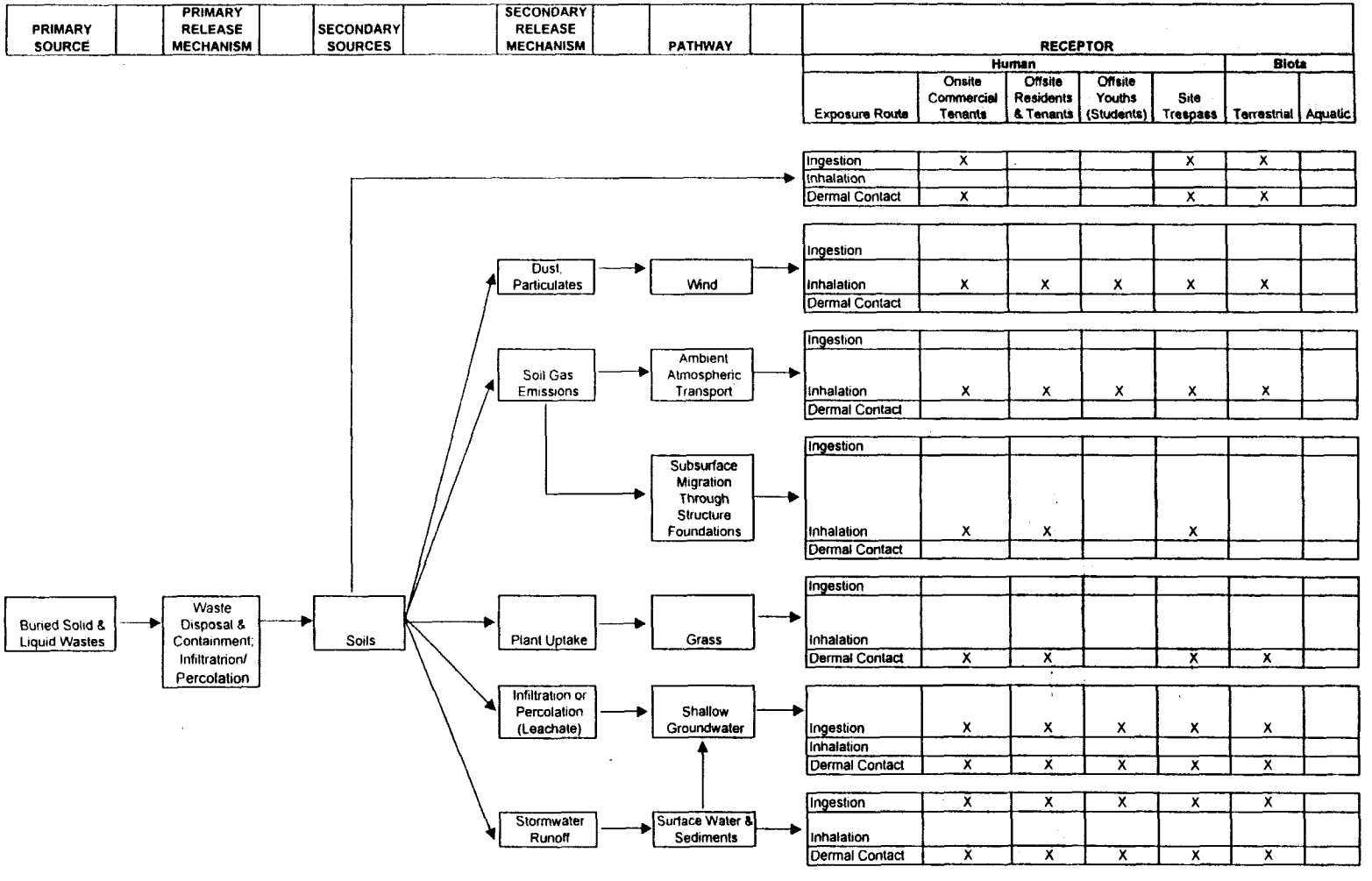

Notes (1) CSM illusrates *potential*exposure pathways and receptors; (2)There has been no demonstration that the site has contributed to exceedances of groundwater standards (MCLs). (3) Receptors include onsite residents/tenants and potenital offsite populations

buried waste areas/waste handling areas, Area 1 and Areas 3-8, and soil gas) occur at depths ranging from 5 to 25 feet bgs across the site. The estimated lateral extent of buried waste has been expanded since issuance of the 1993 ROD. Figure 3 illustrates the extent of buried waste based on recent site investigations.

b. Release Mechanisms

Release mechanisms are associated with waste disposal activities as well as methods utilized at the site to control and contain sources of contamination (e.g., existing concrete reservoir in Area 2). Other mechanisms include transmission of contaminant-laden dust, plant uptake, potential commingling and infiltration of waste constituents to subsurface soils and groundwater, and potential impacts from stormwater runoff. Particularly relevant to the WDI site, investigations have also documented the formation of soil gas which may impact future site occupants, including tenants of on-site businesses.

c. Exposure Pathways

Primary exposure routes to potential receptors include: direct contact, ingestion, or inhalation of soil particulates (e.g., wind-borne dust associated with the site); inhalation of ambient atmospheric transported soil gas emissions; and inhalation of subsurface soil gas constituents migrating through structure foundations.

Exposure pathways include wind, ambient atmospheric transport, subsurface migration, grass, groundwater, surface water, and sediments.

The primary pathways for potential contaminant migration to groundwater include direct release of waste liquids from the concrete reservoir in Area 2, direct release of liquids or leaching of contaminants from the buried waste sump areas, and leaching or diffusion of VOCs from soil gas.

d. Primary Receptors

Receptors include on-site occupants of the WDI site, such as tenants of existing and future industrial enterprises. Also considered in the model are other human receptors such as offsite youths (students at school adjacent to the site), offsite residents, and potential trespassers on the site.

F. Current & Potential Future Site & Resources Uses

1. Current Land Use

The WDI site encompasses a total of 22 individual land parcels, 19 of which currently contain structures. Zoning for the site is M-2 Heavy Manufacturing with an Industrial land use designation. Existing structures accommodate a wide variety of light industrial enterprises, including recreational vehicle storage, a tool and die shop, printing and plating shops, and vehicle maintenance facilities.

Adjacent land uses include residential areas and additional businesses that undertake light industrial and commercial activities. A private high school with associated athletic playing fields is located directly north of the WDI site. Throughout the community involvement process (see Section C for discussion of community participation), the high school has expressed concerns regarding (1) short-term and long-term visual impacts, (2) short-term construction noise, (3) offsite drainage, and (4) potential offsite migration of contamination.

2. Accommodation of Future Use of the Site

Since the issuance of the original 1993 ROD, the City of Santa Fe Springs has continued to express a strong interest in redeveloping the site for industrial uses. In 2000, EPA provided a grant to the City of Santa Fe Springs under the Superfund Redevelopment Initiative (SRI) to develop a master plan for the future redevelopment and reuse of the site. The City is preparing the development plan and is exploring numerous industrial land uses.

Recognizing the City's interest in redevelopment of the site, EPA evaluated remedial alternatives as presented in the Supplemental Feasibility Study that address redevelopment according to separate and distinct strategies. These strategies emphasize protection of human health and the environment through implementation of containment systems. The alternatives differ, however, with respect to the timing and sequencing of redevelopment. Alternatives 2, 4, and 5 would involve a two-step approach to redevelopment, entailing (1) early implementation of EPA's remedial action and (2) later redevelopment of the site that could involve parcel consolidation and redevelopment for non-residential uses by other entities. Under Alternatives 2, 4, and 5 the remedial action would be planned and designed to accommodate future redevelopment by the City or other parties to the maximum extent practicable while not compromising or interfering with EPA's mandate to protect public health and the environment. Alternative 3 includes integrated remediation and redevelopment of the site according to both EPA's remediation plan and a City-approved master redevelopment plan that would take into consideration restricted reuse of the buried reservoir area. Alternative 3 in the Supplementary Feasibility Study included removal of

all current structures and site preparation for future uses. EPA did not select Alternative 3 as the preferred alternative, however, because it is not feasible to concurrently include redevelopment directly as part of EPA's remedy for the site at this time and because EPA does not have authority to control or mandate the redevelopment. Moreover, the challenges of directly integrating the implementation of the containment remedy with redevelopment are considered significant. Implementation of the remedy would need to be delayed to allow the City to finalize its redevelopment plans, enter into development agreements, and work with existing landowners whose businesses may potentially be relocated. The revised remedy presented in this Amended ROD (Alternative 2) will be generally compatible with the City's desire to redevelop the site in the future. Within EPA's authority, and to the maximum extent practicable, the design and implementation for the remedy will be accomplished so as not to preclude appropriate redevelopment of the site.

3. Anticipated Future Groundwater Use

The City of Santa Fe Springs currently owns and operates three municipal water supply wells, two of which are located within 1.5 miles of the WDI site. According to State and City sources one well is located 0.9 mile upgradient from the site and produces water from aquifer zones ranging between 200 and 900 feet bgs. Another well is located 1.3 miles west of the WDI site and is screened in a deep aquifer zone, but is currently not active. The other active municipal water supply well is located four miles south and downgradient of the site and produces water from deeper aquifer zones below 300 feet bgs. Historical information, summarized in the *Final Groundwater Characterization Report* (Ebasco, 1989), has indicated that several private wells were constructed within one mile of the WDI site and were historically used to produce water from deeper water-bearing zones for irrigation and industrial purposes.

The revised remedy will include long-term groundwater monitoring to ensure that the remedy is functioning effectively and to detect any releases from the site that may adversely impact local groundwater. The remedy will include institutional controls that will prevent exposure to contaminated groundwater and prohibit the construction of any new on-site wells without approval by EPA. Institutional controls will also address coordination with state and local regulatory agencies to restrict the potential permitting and construction of any new wells in contaminated shallow water- bearing zones in the vicinity of the WDI site.

G. Summary of Site Risks

The potential risks identified at the WDI site are exposure by direct contact with contaminated soil, the inhalation of contaminated soils via dust, and the inhalation of gases migrating into enclosed spaces. Risk evaluations were performed for COCs detected at the site, including metals, pesticides, VOCs, and SVOCs.

An Endangerment Assessment was first performed by EPA in November 1989 (EBASCO, 1989) to estimate the potential risk to current users of the site. This assessment quantitatively evaluated the risks to current and future site receptors at the site. The Endangerment Assessment was conducted for the "current" site uses including the presence of trespassers, nearby off-site adult and child residents, and nearby off-site students exposed to airborne particles and VOCs. The assessment concluded that the highest potential cancer risk (plausible maximum) is approximately 3 X 10^{-5} (or 3 in 100,000) which is within the cancer risk range considered acceptable by EPA (Table 3). The noncarcinogenic Hazard Index (HI) for current uses were also below 1 and considered acceptable except for trespassers contacting surface soils with an HI equal to 3.

For future land use scenarios, the 1989 Endangerment Assessment assumed a residential (i.e., unrestricted) scenario that evaluated on-site residents contacting contaminated surface soil; on-site residents ingesting contaminated groundwater; and on-site residents inhaling contaminants in indoor air from subsurface gas migration. The Assessment concluded that the highest potential cancer risk (plausible maximum) is approximately 3 X 10^{-3} (or 3 in 1,000), which is outside the cancer risk range considered acceptable by EPA (Table 3). The noncarcinogenic HI for future uses was greater than 1 and considered unacceptable for residents contacting soil, and residents ingesting contaminated groundwater. Presently, the anticipated future use of the property is industrial; the assumption of residential use in the 1989 report is considered to be a conservative, health-protective assumption. Because of the proximity of the site to residences and a school, and the growth anticipated in the area, this conservative residential assumption is reasonable. The 1989 Endangerment Assessment used the following criteria to identify COCs listed in the previous section:

- Comparison with blanks: The Endangerment Assessment used trip and field blanks to identify compounds that are not site-related.

- Comparison with background concentrations: The Endangerment Assessment typically did not identify inorganics as COCs if sample concentrations were less than five times the background concentrations.

- Frequency of detection: The Endangerment Assessment typically did not identify a chemical as a COC if it was detected in less than five percent of the samples.

- Consideration of concentration, toxicity, and physicochemical properties: The Endangerment Assessment typically did not include compounds with very low toxicity as COCs. Conversely the Endangerment Assessment did identify highly toxic compounds as COCs.

TABLE 3
SUMMARY OF POTENTIAL HEALTH RISKS
WASTE DISPOSAL, INC. SUPERFUND SITE

EXPOSURE SCENARIO (1)	TOTAL LIFETIME CANCER RISKS		NONCARCINOGENIC HAZARD INDEX (CDI/RfD)	
	Average	Plausible Maximum	Average	Plausible Maximum
CURRENT LAND USE				
Trespassers contacting surface soils	5E-07	3E-05	5E-02	**3E+00** (2)
Offsite residents inhaling airborne particulates				
-0.1 km	3E-06	8E-06	2E-03	2E-03
-0.5 km	5E-07	2E-06	3E-04	3E-04
-1.0 km	2E-07	8E-07	2E-04	2E-04
Students inhaling airborne particulates	2E-07	4E-07	4E-04	5E-04
Offsite residents inhaling airborne volatile chemicals				
-0.1 km	3E-07	5E-06	2E-06	9E-06
-0.5 km	5E-08	1E-06	4E-07	2E-06
-1.0 km	2E-08	5E-07	2E-07	9E-07
Students inhaling airborne volatile chemicals	3E-08	3E-07	4E-07	3E-06
FUTURE LAND USE				
Onsite Residents contacting soil				
- Adults	3E-06	**7E-04**	2E-01	**1E+01**
- Children	2E-05	**3E-03**	**2E+00**	**5E+02**
Onsite Residents ingesting groundwater				
- Adults	4E-05	**3E-04**	5E-01	**2E+00**
- Children			**2E+00**	**8E+00**
Onsite Residents inhaling volatile chemicals in indoor air				
- Adults	6E-05	**6E-04**	5E-04	1E-03
- Children			9E-04	3E-03

Notes: (1) The potential inhalation risks under a future commercial/industrial scenario, as is presently anticipated, would be less than those determined under the residential scenario (but still above 10-4 to 10-6 cancer risk range). For example, the only differences between an adult residential exposure (assumed in the risk assessment) and a commercial/industrial worker exposure (using EPA's default assumptions) is the exposure frequency (365 days per year for a resident versus 250 days per year for a worker) and exposure duration (30 years for a resident versus 25 years for a worker). The combined difference between these receptors is 1.75 (i.e. 365/250 multiplied by 30/25). This difference is not great and would still yield a risk above the risk range for workers (the residential risk of 6 x 10-4 divided by 1.75 yields a worker risk of 3 x 10-4).

(2) Bold entries exceed EPA's 1 x 10^{-4} risk level or a Hazard Index of 1 using future land use scenario only.

1. Toxicity Assessment

For risk assessment purposes, human health effects of chemicals were separated into two categories of toxicity: noncarcinogenic and carcinogenic effects. For carcinogens, there is no threshold dose that may result in deleterious effects. This means that any level of exposure to a carcinogen may result in some level of risk of disease. For noncarcinogens, threshold doses are applicable as described below.

2. Reference Doses (Noncarcinogenic Effects)

Reference doses (RfDs) are the toxicity values used to evaluate noncarcinogenic effects. An RfD, expressed in units of daily milligrams per kilogram (mg/kg-day), represents an estimate of a daily exposure concentration that will not result in adverse effects in the most sensitive of individuals in a lifetime. If an exposure results in an estimated intake exceeding the RfD, there is a potential for adverse health effects. Table 4 presents the oral and inhalation RfDs used in the 1989 Endangerment Assessment as well as sources for the RfDs.

3. Cancer Slope Factors (Carcinogenic Effects)

To evaluate carcinogenic effects, EPA has developed cancer slope factors that define the relationship between dose and response of specific chemicals. Slope factors, expressed in units of daily milligrams per kilogram (mg/kg-day), estimate the probability of developing cancer per unit intake of a chemical. The probability of developing cancer equals the product of the slope factor times the exposure. EPA derives slope factors from laboratory studies with animals or from human epidemiological studies. The slope factor represents the upper 95th confidence level on a probability of a response per unit intake of a chemical over a lifetime. EPA classifies chemicals into the following several groups according to the weight of evidence showing that specific chemicals may cause cancer:

- Group A – Human carcinogens (sufficient evidence of carcinogenicity in humans)
- Group B – Probable human carcinogens (B1 -- limited evidence of carcinogenicity in humans; B2 -- sufficient evidence of carcinogenicity in animals with inadequate evidence for carcinogenicity in humans)
- Group C – Possible Human Carcinogens (limited evidence of carcinogenicity in animals with limited evidence of carcinogenicity in humans)
- Group D – Not Classifiable
- Group E – No Evidence of Carcinogenicity

EPA typically develops slope factors (SFs) for chemicals classified in groups A, B1, and B2, and on a case-by-case basis for chemicals in Group C. Table 4 presents the slope factors for each of the WDI site COCs.

TABLE 4

TOXICITY VALUES FOR CHEMICALS OF CONCERN WASTE DISPOSAL, INC. SUPERFUND SITE [1]

CHEMICAL OF POTENTIAL CONCERN	ORAL RfD VALUE (mg/kg-day)	INHALATION RfD VALUE (mg/kg-day)	ORAL SLOPE FACTOR (mg/kg-day)	INHALATION SLOPE FACTOR (mg/kg-day)	SOURCES OF RfD AND SLOPE FACTOR	USEPA CANCER CLASSIFICATION
ORGANICS						
Aldrin	3E-05	--	17	17	IRIS/HEA	B2
Benzene	--	--	2.9E-02	2.9E-02	IRIS/HEA	A
Benzene Hexachloride						
Gamma-isomer (Lindane)	3E-04	--	1.3	--	IRIS	B2
Benzoic acid	4E+00	--	--	--	IRIS	--
2-Butanone	5E-02	9E-02	--	--	IRIS/HEA	--
Carbon tetrachloride	7E-04	--	1.3E-01	1.3E-01	IRIS	B2
Chlordane	6E-05	--	1.3E+00	1.3E+00	IRIS	B2
Chloroform	1E-02	--	6.1E-03	8.1E-02	IRIS	B2
DDT	5E-04	--	3.4E-01	3.4E-01	IRIS	B2
1,2-Dibromoethane	--	--	8.5E+01	7.6E-01	IRIS	B2
1,4-Dichlorobenzene	1E-01	2E-01	2.4E-02	--	HEA	B2
1,2-Dichloroethane	--	--	9.1E-02	9.1E-02	IRIS	B2
Dieldrin	5E-05	--	1.6E+01	1.6E+01	IRIS	B2
Ethylbenzene	1E-01	1E-01	--	--	IRIS	--
Heptachlor	5E-04	--	4.5E+00	4.5E+00	IRIS	B2
Heptachlor Epoxide	1.3E-05	--	9.1E+00	9.1E+00	IRIS	B2
Methylene chloride	6E-02	--	7.5E-03	1.4E-02	HEA	B2
Pentachlorophenol	3E-02	3E-02	1.6E-02	1.6E-02	HEA/Cal EPA	B2
Polychlorinated Biphenyls	--	--	7.7E+00	--	IRIS	B2
Polycyclic Aromatic Hydrocarbons						
Noncarcinogenic	4.1E-01	4.1E-01	--	--	HEA	--
Carcinogenic	--	--	1.15E+01	6.10E+00	HEA	B2
Tetrachloroethane	1E-02	--	5.1E-02	3.3E-03	IRIS/HEA	B2
Toluene	3E-01	1E+00	--	--	IRIS/HEA	--
1,1,1-Trichloroethane	9E-02	3E-01	--	--	IRIS	--
Trichloroethene	7.35E-03	--	1.1E-02	1.3E-02	HEA	B2
ORGANICS (continued)						
Vinyl chloride	--	--	2.3E+00	2.95E-01	IRIS	A
Xylenes	2E+00	3E-01	--	--	HEA	--

TABLE 4
(Continued)

CHEMICAL OF POTENTIAL CONCERN	ORAL RfD VALUE (mg/kg-day)	INHALATION RfD VALUE (mg/kg-day)	ORAL SLOPE FACTOR (mg/kg-day)	INHALATION SLOPE FACTOR (mg/kg-day)	SOURCES OF RfD AND SLOPE FACTOR	USEPA CANCER CLASSIFICATION
INORGANICS						
Antimony	4E-04	4E-04	--	--	IRIS	--
Arsenic	1E-03	--	2.0E+00	5.0E+01	EPA, 1988/IRIS	A
Cadmium			--	--		B1
Drinking water route	5E-04	--	--	6.1E+00	HEA	A
Other routes	1E-03	--	--	--	IRIS/HEA	--
Chromium (III)	1E+00	--	--	4.1E+01	IRIS	--
Chromium (VI)	5E-03	--	--	--	IRIS	--
Copper	4E-02	1E-02	--	--	EPA, 1987	--
Lead	6E-04	6E-04	--	--	--	--
Manganese	2E-01	3E-04	--	--	HEA	--
Mercury, inorganic	3E-04	5E-05	--	--	HEA	--
Mercury, organic	3E-04	1E-04	--	--	HEA	--
Selenium	3E-03	1E-03	--	--	HEA	--
Thallium	7E-05	--	--	--	HEA	--
Zinc	2.1E-01	--	--	--	IRIS	--

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A = Sufficient evidence of carcinogenicity in humans.
B1 = Limited evidence of carcinogenicity in humans.
B2 = Sufficient evidence of carcinogenicity in animals with inadequate or lack of human data.
C = Limited evidence of carcinogenicity in animals and inadequate or lack of human data.
Cal-EPA = California Environmental Protection Agency.
IRIS = Integrated Risk Information System.
HEA = Health Effects Advisories.
mg/kg-day = daily milligrams per kilogram.
RfD = Reference dose.
-- = No value.

(1) Note: Table 4 was prepared for 1993 ROD and it shows a partial listing of COCs. See Table 2 and Table 10 for other COCs added for Amended ROD.

4. Exposure Assessment

The 1989 Endangerment Assessment identified several potential receptors for the WDI site based on then-current land uses:

- Trespassers contacting surface soils
- Offsite residents inhaling airborne particulates and VOC emissions
- Students inhaling airborne particulates and VOC emissions

The most likely future land use scenario also includes future industrial redevelopment. As a worst-case scenario, the 1989 Endangerment Assessment assumed that the site could be redeveloped for residential land uses. On-site residents were used as a conservative indicator since this is considered a maximum exposure condition. For future land use conditions, the Endangerment Assessment quantitatively evaluated the following receptor and exposure pathways:

- On-site residents contacting soil and ingesting groundwater
- On-site residents inhaling VOC emissions and indoor air

These assumptions are considered conservative since it is anticipated that future land use on-site would be restricted to certain industrial uses. The assumptions are reasonable, however, in light of the proximity of residential land uses to the site.

5. Estimation of Daily Intakes

EPA estimated both an average exposure and daily intake and a plausible maximum intake for current and future receptors at the site. The average daily intake was estimated by EPA using mean soil, soil gas, and groundwater concentrations as well as average exposure parameters. For plausible maximum intake, EPA used the maximum soil, soil gas, and groundwater concentrations together with upper range estimates for exposure parameters. Table 5 presents the values and calculations used to estimate exposure.

6. Exposure Point Concentrations

Concentration at the point of human contact is known as exposure point concentration. The 1989 Endangerment Assessment estimated an average and plausible maximum exposure point concentration. For potential exposure to contaminants in soil and groundwater, EPA assumed that the exposure point is at the same collection point (e.g., soil collection point or groundwater monitoring well location). For these media, EPA used the geometric mean of all sampling locations to calculate an average exposure point concentration and maximum detected concentration to calculate the

TABLE 5

VALUES USED TO CALCULATE CHRONIC DAILY INTAKE (CDI) WASTE DISPOSAL, INC. SUPERFUND SITE

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	AVERAGE CASE	PLAUSIBLE MAXIMUM	INTAKE EQUATION/ MODEL NAME
CURRENT LAND-USE SCENARIO						
Direct Contact with Soil by Trespassers	CS	Chemical Concentration in Soil	mg/kg	Geometric Mean	Maximum	Intake by ingestion (INTi) = CS x ABS x IRS x Cv
	EF	Exposure Frequency	event/week	1	5	
	ED	Exposure Duration	years	4	6	Intake by dermal contact (INTd) = CS x ABS x SA x Cv
	BW	Body weight	kg	60	60	
	IRS	Soil Ingestion Rate	mg/event	100	100	CDI = [(INTi + INTd) x ED x EF)]/(BW x AT)
	SA	Exposed Surface Area	cm^2	1,400	1,980	
	ABS	Skin Adsorption	unitless	chemical-specific	chemical-specific	
	SC	Soil Contact Rate	mg/cm^2-day	1.45	2.77	
	AT-C	Averaging Time for Carcinogens	days	27,375	75	
	AT-N	Averaging Time for Noncarcinogens	days	=ED x 365	=ED x 365	
	Cv	Conversion Factor	kg/mg	1E-06	1E-06	
Inhalation of Airborne Particulates and Volatiles by Adult Residents and Students	CA	Chemical Concentration in Air	mg/m^3	modeled conc.	modeled conc.	
	EF (adult)	Exposure Frequency	days/year	330	330	Intake by inhalation (INTa) = CA x IR x EL x ABSi x Cv
	EL (adult)	Exposure Length	hours/day	24	24	
	ED (adult)	Exposure Duration	years	9	30	CDI = (INTa x ED x EF)/ (BW x AT)
	BW (adult)	Body Weight	kg	70	70	
	ABSi	Inhalation Absorption Fraction	unitless	chemical-specific	chemical-specific	
	IR	Inhalation Rate	m^3/day	20	20	
	Cv	Conversion Factor	day/hours	0.042	0.042	
	EF (student)	Exposure Frequency	days/year	180	180	
	EL (student)	Exposure Length	hours/day	8	10	
	ED (student)	Exposure Duration	years	4	6	
	BW (student)	Body Weight	kg	60	60	
FUTURE LAND-USE SCENARIO						
Direct Contact with Soil by Onsite Residents	CS	Chemical Concentration in Soil	mg/kg	geometric mean	maximum	Intake by ingestion (INTi) = CS x ABS x IRS x Cv
	EF (adult)	Exposure Frequency	days/year	240	365	
	ED (adult)	Exposure Duration	year	9	30	Intake by dermal contact (INTd) = CS x ABS x SA x Cv
	BW (adult)	Body Weight	kg	70	70	

TABLE 5

VALUES USED TO CALCULATE CHRONIC DAILY INTAKE (CDI)
WASTE DISPOSAL, INC. SUPERFUND SITE
(Continued)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	AVERAGE CASE	PLAUSIBLE MAXIMUM	INTAKE EQUATION/ MODEL NAME
FUTURE LAND-USE SCENARIO (Continued)						
Direct Contact with Soil by Onsite Residents	IRS (adult)	Soil Ingestion Rate	mg/day	100	100	CDI = [(INTi + INTd) x ED x EF)/(BW x AT)
	SA (adult)	Exposed Surface Area	cm^2	1,400	1,980	
	ABS	Skin Absorption	unitless	chemical-specific	chemical-specific	
	SC	Soil Contact Rate	mg/cm^2-day	1.45	2.77	
	AT-C	Averaging Time for Carcinogens	days	27,375	75	
	AT-N	Averaging Time for Noncarcinogens	days	=ED x 365	=ED x 365	
	Cv	Conversion Factor	kg/mg	1E-06	1E-06	
	EF (child)	Exposure Frequency	days/year	240	365	
	ED (child)	Exposure Duration	years	6	6	
	BW (child)	Body Weight	kg	15	15	
	IRS (child)	Soil Ingestion Rate	Mg/day	200	800	
	SA (child)	Exposed Surface Area	Cm^2	1,400	1,400	
Ground Water Ingestion by Onsite Residents	CW	Chemical Concentration in Ground Water	mg/kg	geometric mean	maximum	
	EF	Exposure Frequency	days/year	365	365	
	ED (adult)	Exposure Duration	years	9	30	CDI = (CW x Ing x ED x EF)/ (BW x AT)
	BW (adult)	Body Weight	kg	70	70	
	Ing (adult)	Ground Water Ingestion Rate	L/day	2	2	
	AT-C	Averaging Time for Carcinogens	days	27,375	75	
	AT-N	Averaging Time for Noncarcinogens	days	=ED x 365	=ED x 365	
	Cv	Conversion Factor	kg/mg	1E-06	1E-06	
	ED (child)	Exposure Duration	year	2	4	
	BW (child)	Body Weight	kg	10	10	
	Ing (child)	Ground Water Ingestion Rate	L/day	1	1	
Inhalation of Contaminants in Indoor Air by Onsite Residents	CA	Chemical Concentration in Air	mg/m^3	modeled conc	modeled conc	
	EF	Exposure Frequency	days/year	365	365	Intake by inhalation (INTa) = CS x IR x EL x ABSi x Cv
	EL	Exposure Length	hours/day	24	24	
	ABSi	Inhalation Absorption Fraction	unitless	chemical-specific	chemical-specific	
Inhalation of Contaminants in Indoor Air by Onsite Residents	Cv	Conversion Factor	day/hours	0.042	0.042	
	ED (adult)	Exposure Duration	years	9	30	CDI = (INTa x ED x EF)/ (BW x AT)
	BW (adult)	Body Weight	kg	70	70	
	IR (adult)	Inhalation Rate	m^3/day	20	20	
	ED (child)	Exposure Duration	years	2	4	
	BW (child)	Body Weight	kg	10	10	
	IR (child)	Inhalation Rate	m^3/day	5	5	

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mg/kg	=	milligrams per kilogram	mg/m^3	=	milligrams per cubic meter
event/week	=	event per week	days/year	=	days per year
kg	=	kilograms	hours/day	=	hours per day
mg/event	=	milligrams per event	m^3/day	=	cubic meter per day
cm^2	=	square centimeters	day/hours	=	day per hours
mg/cm^2-day	=	daily milligrams per square centimeter	L/day	=	liters per day
kg/mg	=	kilograms per milligram	mg/day	=	milligrams per day

plausible maximum exposure point concentration. EPA assumed that trespassers might be exposed to surface soils. For this scenario, EPA used 34 surface samples collected during the remedial investigation (RI) to estimate exposure point concentrations. Under the future land use scenario, the Endangerment Assessment assumed that future residents (a conservative assumption) might be exposed to contaminants present in the upper 20 feet of soil as a result of grading and other construction activities. For this scenario, EPA estimated exposure point concentrations using soil samples collected from 0 to 20 feet bgs.

Contaminants in soil and soil gas at the site may be transported to a downwind receptor. For the potential exposure to air, modeling was utilized to estimate exposure point concentrations. The Endangerment Assessment used a Gaussian dispersion model (Turner, 1970) to measure exposure point concentrations in ambient air at locations 0.1, 0.5, and 1.0 kilometers downwind of the site. The risk assessment also used a one-compartment indoor air model (for above-ground structures) along with soil gas results to estimate indoor air concentrations for future residents living on-site.

7. Risk Characterization

To estimate carcinogenic (cancer) risks, the Chronic Daily Intakes (CDIs) for each exposure pathway are multiplied by SFs. The resulting risk estimate represents the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the carcinogen. Table 3 presents the cancer risk estimates for current and future land-use under several different exposure scenarios.

To estimate noncarcinogenic risks, the CDI for each exposure pathway is divided by the RfD to obtain a hazard quotient. The sum of all hazard quotients for each COC is the hazard index (HI). The RfD is an estimate of daily exposure concentration that will not result in adverse effects in the most sensitive of individuals during a lifetime. When the estimated CDI exceeds the RfD, there may be a concern regarding potential adverse effects. Table 3 presents the HI estimates for each exposure pathway.

The risks estimated in the Endangerment Assessment include some degree of uncertainty as a result of assumptions made regarding exposure and toxicity. When estimating plausible maximum exposure point concentrations, for example, the Endangerment Assessment assumed that individuals would be exposed to maximum soil or groundwater concentrations for every COC (a conservative assumption). In addition, the Endangerment Assessment assumed that contaminant concentrations will remain constant over time with no degradation. Toxicity factors (RfDs and slope factors) are also likely to provide conservative estimates of risk to ensure protectiveness.

Both current and future risks were estimated in the Endangerment Assessment pursuant to the National Contingency Plan (NCP) and were considered to evaluate

whether or not the site presents an "unacceptable risk" to human health and the environment. Acceptable risk is defined as when the cumulative carcinogenic risk to a receptor based on a "reasonable maximum exposure" (RME) is less than 10^{-4} (e.g. 1 in 10,000 chances of cancer) and a noncarcinogenic hazard index (HI) is less than 1.

Table 3 presents current site risk exposure estimates, current land use risks based on a reasonable maximum exposure (RME) for exposure scenarios that fall below 10^{-4} cancer risk and a noncarcinogenic HI of less than 1. Therefore EPA considers the current risk exposure estimates to be "acceptable," except in the case of the trespassers scenario, where the HI exceeds 1. However, for the future land use scenarios (using a conservative assumption of on-site residential land use), the site specific risk estimates exceed the 10^{-4} cancer risk for three future residential exposure pathways: (1) direct contact with soils; (2) ingestion of groundwater; and (3) inhalation of volatile chemicals in indoor air. Based on the above criteria, these risk exposures under a residential scenario are considered "unacceptable" by EPA. Generally, where site risks to an individual based on RME exposure assumptions for either current or future land use exceed 10^{-4} lifetime excess cancer risk, action under CERCLA is warranted.

It should be noted that the potential inhalation risks under a future commercial/industrial scenario, as is presently anticipated, would be less than those determined under the residential scenario assumed in the Endangerment Assessment (but still above 10^{-4} to 10^{-6} cancer risk range). For example, the only differences between an adult residential exposure (assumed in the risk assessment) and a commercial/industrial worker exposure (using EPA's default assumptions) is the exposure frequency (365 days per year for a resident versus 250 days per year for a worker) and exposure duration (30 years for a resident versus 25 years for a worker). The combined difference between these receptors is 1.75 (i.e. 365/250 multiplied by 30/25). This difference is not great and would still yield a risk above the risk range for workers (the residential risk of 6×10^{-4} divided by 1.75 yields a worker risk of 3×10^{-4}). A similar analysis would apply for direct contact exposures on-site. Accordingly, for a commercial/industrial scenario, remedial action is warranted under CERCLA.

8. Ecological Risk Assessment

While the Endangerment Assessment also included a qualitative ecological assessment predicting that site contamination may impact wildlife, the site is located in an industrial area and does not represent a significant habitat for wildlife.

A biological endangerment assessment of the site was conducted during the fall of 1998 (Frank Hovore & Associates, September and October 1998). The possibility of native wildlife occupying and persisting at the site was investigated. Particular emphasis was given to determination of the presence or absence of the native gray fox (Urocyon cinereoargenteus), western burrowing owl (Athene cunicularia hypugea), San

Diego horned lizard (Phrynosoma coronatum blainvillii), and other disturbance-tolerant or substrate generalist sensitive taxa on the site. The assessment included field survey observations made along site transects walked 5-10 meters apart around the entire site, from corner to corner and along all boundaries. The assessment determined that there is no evidence of agency-listed endangered, threatened, or otherwise sensitive or protected species within the site boundaries and that the likelihood of any such species occupying the site is low given its history of surface disturbance, recent remedial activities, and effects of human intrusion from adjacent development.

H. Circumstances Prompting the Revised Remedy

Additional soil and soil gas investigations on the perimeter parcels were performed by WDIG and EPA in 1995. Based on these investigations, EPA suspended the design of the original remedy in 1996. During the period from 1997 to 2000, EPA directed the WDIG to perform investigations to further characterize waste in the perimeter parcels. This included delineation of the nature and extent of soil gas, liquids present in the reservoir (in Area 2), and groundwater contamination. Identified soil gas COCs included the human carcinogens benzene and vinyl chloride, and methane. A quarterly in-business air monitoring program was initiated for selected on-site businesses.

I. Remedial Action Objectives

The 1993 ROD did not explicitly identify Remedial Action Objectives (RAOs) because they were not included in the ROD guidance at that time. The implicit RAOs for the site, however, have not been revised or affected. The RAOs for the revised remedy are to:

- Protect human health and the environment by preventing exposure to buried wastes and contaminated soils;
- Protect current and future on-site and off-site receptors from exposure to soil gases;
- Prevent human exposure, from direct contact, consumption, and other uses, to site liquids exceeding state and federal standards;
- Prevent contribution of site liquids to exceedances of state and federal groundwater standards; and
- Prevent human exposure to groundwater that exceeds state and federal standards due to site-related contaminants.

These objectives are based on the present use of the site, the anticipated potential for

future use of the site for industrial purposes, and the potential for groundwater in the area to be used as a public water supply.

J. Description of Alternatives

EPA has selected the revised remedy after evaluation of multiple alternatives, including the original remedy selected in the 1993 ROD and seven alternatives that have been evaluated as part of the Supplemental Feasibility Study completed in May 2001.

1. Original Remedy from 1993 Record of Decision

The original remedy as presented in the 1993 ROD consisted of the following major components:

- Excavation of wastes in designated areas to achieve cleanup standards;
- Reconsolidation of excavated materials beneath a RCRA-equivalent cap to be installed over the reservoir (Area 2);
- Installation of a RCRA-equivalent cap over the reservoir (in Area 2) and designated areas (Area 2 and some minor portions of the perimeter), covering approximately 17 acres of the site;
- Placement of perforated piping for the passive extraction and flaring of subsurface gases throughout the area to be capped;
- Monitoring of gases and installation of an active extraction and treatment system, if required to address constituents and volume of gases; and
- Implementation of institutional controls to ensure that future use of the site is compatible with the remedy goals, maintain the integrity of the cap, restrict parcels with residual contamination from activities that could lead to exposure to contaminated soils, and prohibit shallow groundwater use.

2. Alternatives Evaluated for Revised Remedy

EPA identified, reviewed, and evaluated a total of seven alternatives as part of the Supplemental Feasibility Study that was completed in May, 2001. The alternatives included components for containment of buried wastes with capping systems, gas collection, extraction, and gas migration control systems, as well as institutional controls and long-term O&M. Alternatives that involved treatment or excavation and offsite disposal of buried wastes were not included in detailed evaluations because they were too costly, not practical, and posed significant potential health risks to the community

due to the high volume of trucks hauling wastes from the site over a period of years. Alternatives 1, 2, 3, 4, and 5 incorporated groundwater monitoring to address current groundwater conditions at the site. Alternatives 6 and 7 were identified in the Supplemental Feasibility Study as stand-alone groundwater alternatives for evaluation as required by the NCP. However, these two alternatives were not retained as separate remediation alternatives since they did not address containment of buried wastes, contaminated soils, soil gas, or liquids. The list of alternatives subjected to detailed evaluation for the revised remedy in the Supplemental Feasibility Study is:

Alternative #1: NO FURTHER ACTION

The no further action alternative is required by the NCP as a basis of comparison for other alternatives. Under this alternative, only limited actions (i.e., fencing) would be taken to restrict access to the site or reduce the potential for exposure. This alternative would include continuation of the current site groundwater monitoring program.

Alternative #2: RCRA-EQUIVALENT CAP OVER RESERVOIR (IN AREA 2) AND MONOFILL (SOIL/ASPHALT/CONCRETE) CAP OVER PORTIONS OF AREAS 1, 2, 4, 5, 6, 7, AND 8; RESERVOIR LEACHATE COLLECTION POINTS; SOIL GAS ENGINEERING CONTROLS; GROUNDWATER AND SOIL VAPOR MONITORING; AND INSTITUTIONAL CONTROLS [This alternative was ultimately selected by EPA as the basis for the *Revised Remedy*.]

This alternative incorporates a RCRA-equivalent cap to provide containment for the reservoir area (Area 2) and a monofill cap over buried waste outside the reservoir area installed in Areas 1, 2, 4, 5, 6, 7, and 8. The monofill cap would consist of graded soil, asphalt, and concrete in designated areas. A gas collection system would be installed under the RCRA-equivalent cap. Extracted gases from the reservoir area would be treated by an appropriate technology (e.g., granular activated carbon [GAC]). Passive bioventing wells would be installed along portions of the perimeter of buried waste near existing buildings to mitigate the formation of methane gas and enhance the degradation of organic materials. Valves on these wells would open during high barometric conditions to allow oxygen in and close during low barometric conditions to retain oxygen, thus "pumping" atmospheric air into the subsurface formation and driving it towards conditions that maximize aerobic biodegradation. Leachate Collection Points (LCPs) would be installed to monitor for, collect and remove "free liquids" within

buried waste. Soil gas engineering controls would be installed within existing structures; where engineering controls are not technically feasible, buildings would be removed. The decision to provide engineering controls or remove any particular building would be made during design. Engineering controls may consist of sealing penetrations in floor slabs, installation of active or passive venting systems below floor slabs, installation of positive pressure HVAC systems and/or physical barriers, and/or ventilation improvements. Institutional Controls (ICs) would be implemented to restrict current and future land uses at the site, protect the integrity of the cap and soil gas control systems, restrict future use of shallow groundwater, and ensure the effectiveness of the remedy components. Groundwater, soil vapor, and in-business air quality monitoring would be conducted. This alternative anticipates, and would be compatible with, site redevelopment at some point in the future, for industrial land uses. This alternative would provide for implementation of remediation facilities as the first step; redevelopment of the site could follow as a second, but separate step, by other parties.

Alternative #3: RCRA-EQUIVALENT CAP OVER RESERVOIR (IN AREA 2); REDEVELOPMENT OF AREAS 1, 2 (OUTSIDE OF RESERVOIR), 3, 4, 5, 6, 7, AND 8; RESERVOIR LEACHATE COLLECTION POINTS; SOIL GAS ENGINEERING CONTROLS; GROUNDWATER AND SOIL VAPOR MONITORING; AND INSTITUTIONAL CONTROLS

This alternative incorporates a RCRA-equivalent cap to provide containment for the reservoir area (Area 2). Outside the reservoir (Areas 2, 3, 4, 5, 6, 7, and 8) the property would be redeveloped by the City of Santa Fe Springs or private entities. Prior to redevelopment, the portions of these areas overlying buried waste would be covered with a monofill (soil) cap, having a minimum thickness of 2 feet. Pavements and foundations of the new developments would serve to enhance the performance of the monofill cap. A gas collection system would be installed under the RCRA-equivalent cap and operated as an active system for the first year and as a passive system thereafter. Collected gases from the reservoir area would be treated by an appropriate technology (e.g., GAC). Passive bioventing wells would be installed along portions of the perimeter of buried waste near existing buildings to mitigate the formation of methane gas and enhance the degradation of organic materials. Valves on these wells would open during high barometric conditions to allow oxygen in and close during low

barometric conditions to retain oxygen, thus "pumping" atmospheric air into the subsurface formation and driving it towards conditions that maximize aerobic biodegradation. LCPs would be installed to monitor, collect, and remove "free liquids" within buried waste. Some existing buildings in Areas 1, 2, 5, and 8 that are constructed over buried wastes would be demolished to permit construction of the soil monofill cap. ICs would be implemented to restrict current and future land uses at the site, protect the integrity of the cap and soil gas control systems, restrict future use of shallow groundwater, and ensure the effectiveness of the remedy components. Groundwater, soil vapor, and in-business air quality monitoring would be conducted. Industrial redevelopment would be incorporated and integrated into the remediation of the site.

Alternative #4: RCRA-EQUIVALENT CAP OVER RESERVOIR (IN AREA 2) AND MONOFILL CAP OVER PORTIONS OF AREAS 2, 4, 5, AND 7; EXCAVATION/CONSOLIDATION OF BURIED WASTE FROM AREAS 1, 6 AND 8; REMOVAL OF BUILDINGS UNDERLAIN BY BURIED WASTE IN AREAS 1 AND 8; RESERVOIR LEACHATE COLLECTION POINTS; SOIL GAS ENGINEERING CONTROLS; GROUNDWATER AND SOIL VAPOR MONITORING; AND INSTITUTIONAL CONTROLS

This alternative incorporates a RCRA-equivalent cap to provide containment for the reservoir area (Area 2). Waste from Areas 1, 6, and 8 would be excavated and reconsolidated underneath the RCRA-equivalent cap in Area 2. Monofill capping consisting of graded soil, asphalt, and concrete would be installed in Areas 2, 4, 5, and 7. A gas collection system would be installed under the RCRA-equivalent cap. The system would be operated initially as an active system, and eventually, with anticipated gas volume reductions, as a passive system. Collected gases from the reservoir area would be treated by an appropriate technology (e.g., GAC). Passive bioventing wells would be installed along portions of the perimeter of buried waste near existing buildings to mitigate the formation of methane gas and enhance the degradation of organic materials. Valves on these wells would open during high barometric conditions to allow oxygen in and close during low barometric conditions to retain oxygen, thus "pumping" atmospheric air into the subsurface formation and driving it towards conditions that maximize aerobic biodegradation. LCPs would be installed to collect and remove "free liquids" within buried waste. Soil gas engineering controls would be installed within existing structures underlain by waste. Engineering controls might consist of sealing

penetrations in floor slabs, installation of active or passive venting systems below floor slabs, installation of positive pressure HVAC systems and/or physical barriers, and/or ventilation improvements. ICs would be implemented to restrict current and future land uses at the site, protect the integrity of the cap and environmental control systems, restrict future use of shallow groundwater, and ensure the effectiveness of the remedy. Groundwater, soil vapor, and in-business air quality monitoring would be conducted.

Alternative #5: RCRA-EQUIVALENT CAP OVER AREA 2 INCLUDING THE RESERVOIR (IN AREA 2); EXCAVATION/RECONSOLIDATION OF BURIED WASTE FROM AREAS 1, 4, 5, 6, 7, and 8; RESERVOIR LEACHATE COLLECTION POINTS; SOIL GAS ENGINEERING CONTROLS; GROUNDWATER AND SOIL VAPOR MONITORING; AND INSTITUTIONAL CONTROLS

This alternative incorporates a RCRA-equivalent cap to provide containment for the reservoir area (Area 2). Waste from Areas 1, 4, 5, 6, 7, and 8 would be excavated and reconsolidated underneath the RCRA-equivalent cap in the southwestern half of Area 2. Buildings in Areas 1, 5, and 8 would be demolished. A gas collection system would be installed under the RCRA-equivalent cap. Collected gases from the reservoir area would be treated by an appropriate technology (e.g., GAC). In addition, passive bioventing wells would be installed along portions of the perimeter of buried waste near existing buildings to mitigate the formation of methane gas and enhance the degradation of organic materials. Valves on these wells would open during high barometric conditions to allow oxygen in and close during low barometric conditions to retain oxygen, thus "pumping" atmospheric air into the subsurface formation and driving it towards conditions that maximize aerobic biodegradation. LCPs would be installed to collect and remove "free liquids" within buried waste. Soil gas engineering controls would be installed for new developments in areas underlain by waste material. ICs would be implemented to restrict current and future land uses at the site, protect the integrity of the cap and environmental control systems, restrict future use of shallow groundwater, and ensure the effectiveness of the remedy components. Groundwater, soil vapor, and in-business air quality monitoring would be conducted.

Alternative #6: GROUNDWATER MONITORING

EPA included this alternative to address groundwater monitoring as

a separate alternative. This alternative represents the continuation of current groundwater monitoring programs and is considered appropriate for the current groundwater conditions at the site. Although MCL exceedances have not been demonstrated to be attributed to the site, the NCP requires an evaluation of the contamination.

Alternative #7: GROUNDWATER EXTRACTION AND TREATMENT

This alternative addresses groundwater only and consists of extraction and treatment of groundwater. Alternative #7 was included in the Supplemental Feasibility Study in case current groundwater conditions at the site change in the future. The alternative would include the installation of groundwater extraction wells located in the portion of the site west of the reservoir (in Area 2). The extraction wells would be placed in the interior of the site to create an inward hydraulic gradient and capture contaminated groundwater before it could migrate offsite. Extracted groundwater would then be treated and reinjected through injection wells located on the western site boundary to create a groundwater boundary on the downgradient border of the site.

K. Comparative Analysis of Alternatives

1. Comparison of Alternatives for Revised Remedy

EPA promulgated regulations in the NCP that establish a framework of nine evaluation criteria for selection of a preferred remedial alternative. EPA has reviewed and compared the alternatives identified in the Supplemental Feasibility Study with respect to the CERCLA nine evaluation criteria. The nine criteria are:

- Overall Protection of Human Health and the Environment
- Compliance with Applicable, or Relevant and Appropriate Requirements (ARARs)
- Long-term Effectiveness
- Reduction of Toxicity, Mobility, or Volume Through Treatment
- Short-term Effectiveness
- Implementability
- Cost
- State Acceptance
- Community Acceptance

a. Overall Protection of Human Health and the Environment

Overall protection of human health and the environment addresses whether each alternative provides adequate protection of human health and the environment and describes how risks through each exposure pathway are eliminated, reduced, or controlled, through treatment, engineering controls, and institutional controls.

With the exception of Alternative 1, the No Further Action Alternative, all alternatives are considered to be protective of human health and the environment. They would protect future on-site populations as well as the nearby community. The use of RCRA-equivalent caps and engineered capping systems will provide protection against exposure to wastes, contaminated soils, liquids, and subsurface gases. Alternative 5 would provide the greatest level of long-term protection due to extensive excavation in designated perimeter areas and reconsolidation of waste under the RCRA-equivalent cap in the reservoir area.

b. Compliance with ARARs

Section 121(d) of CERCLA and NCP §300.430(f)(1)(ii)B) require that remedial actions at CERCLA sites at least attain legally applicable or relevant and appropriate federal and state requirements, standards, criteria, and limitations which are collectively referred to as "ARARs", unless such ARARs are waived under CERCLA section 121(d)(4).

Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be applicable. Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well-suited to the particular site. Only those state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be relevant and appropriate.

Several ARARs, although generally applicable or relevant and appropriate to

remedial actions, do not apply universally to all alternatives. For example, ARARs pertaining to groundwater cleanup remedial actions while applying to Alternatives 6 and 7, do not apply to Alternative 2 since the activities regulated by such ARARs are not part of Alternative 2.

Additionally, all alternatives, except Alternative 1, have common ARARs pertaining to design and construction of landfill covers, gas migration control, as wells as groundwater monitoring.

All five alternatives except Alternative 1, the No Further Action Alternative, would comply with their respective federal, state, and local requirements (ARARs).

c. Long-term Effectiveness and Permanence

Long-term effectiveness and permanence refers to expected residual risk and the ability of the remedy to maintain reliable protection of human health and the environment over time, once cleanup levels have been achieved. This criterion includes consideration of residual risk that will remain on-site following remediation and the adequacy and reliability of controls.

With the exception of Alternative 1, the No Further Action alternative, all alternatives would provide long-term effectiveness. Alternative 5 would provide the greatest level of long-term effectiveness due to extensive excavation and reconsolidation of waste resulting in smaller capping areas and lower long-term O&M requirements.

d. Reduction of Toxicity, Mobility, or Volume Through Treatment

Reduction of toxicity, mobility, or volume through treatment refers to the anticipated performance of the treatment technologies that may be included as part of the remedy.

With the exception of Alternative 1, the No Further Action alternative, all alternatives would reduce the mobility of contamination through use of containment (capping systems), liquids and gas collection and extraction, engineering controls, monitoring, and institutional controls. Alternative 5 would provide the greatest level of long-term reduction of mobility through excavation and reconsolidation of waste under a RCRA-equivalent cap. Alternatives 2, 3, 4, and 5 provide treatment of gases that are extracted from beneath the RCRA-equivalent cap for the reservoir in Area 2. In addition, reservoir liquids as well as other wastes generated from implementation of the remedy will be collected, treated as necessary, and disposed of in accordance with ARARs.

e. Short-term Effectiveness

Short-term effectiveness addresses the period of time needed to implement the remedy and any adverse impacts that may be posed to workers, the community, and the environment during construction and operation of the remedy until cleanup levels are achieved.

Alternative 1 would result in continued site risks due to no further action. Under Alternatives 2 and 3, although wastes would be contained by RCRA-equivalent cap and engineered capping systems, minimal short-term risks would result due to the wastes remaining in place. Alternative 4 would result in increased short-term site risks due to potential exposures during excavation and reconsolidation of waste. Alternative 5 would lead to the greatest short-term risks due to exposures during increased excavation and reconsolidation of waste under RCRA-equivalent and engineered capping systems.

f. Implementability

Implementability addresses the technical and administrative feasibility of a remedy from design through construction and operation. Factors such as availability of services and materials, administrative feasibility, and coordination with other governmental entities are also considered.

All alternatives are implementable. However, some face more challenges than others. Alternative 1 is the most readily implementable, but provides limited protectiveness. Alternative 2 is readily implementable, and relies upon readily available and proven capping and containment technologies. Implementation of Alternative 2 will provide for City of Santa Fe Springs reviews during the remedial design process. In addition, to the maximum extent practicable, remedial design by the WDIG will seek to accommodate redevelopment grading and layout alternatives that are being evaluated by the City as part of its WDI site redevelopment master planning. Alternative 3 is implementable in terms of undertaking the capping components of the remedy, but would face significant challenges in incorporating redevelopment plans directly into the remedy. Concurrent implementation of the capping and redevelopment would require substantial delays in the remedy to allow time for the City to finalize its redevelopment plans, identify a developer, enter into development agreements, work with existing landowners whose businesses could be potentially relocated, and mobilize for redevelopment. Alternatives 4 and 5 face implementation difficulties due to excavation and transportation of relatively large volumes of waste materials. Alternative 5 has the greatest implementation challenge due to the excavation of the largest quantity of waste. Alternatives 2 through 5 might face same challenges with implementing institutional controls, but the challenges are the same for all of the alternatives, and can most likely be surmounted.

Those challenges are due to the large number of parcels of property at the site and the lack of certainty regarding possible future land disposition and land use requirements.

g. Cost Effectiveness

Cost refers to the total net present worth costs associated with capital expenditures required for the remedy, as well as the annualized costs associated with O&M. These estimates incorporate 30 years of O&M for comparison purposes.

Table 6: Estimated Costs for Remedial Alternatives *

Alternative	Estimated Cost (NPV)
Alternative 1 (includes monitoring)	$2,906,000
Alternative 2	$7,830,000 **
Alternative 3	$7,396,000 ***
Alternative 4	$11,258,000
Alternative 5	$13,237,000

* May 2001 Supplemental Feasibility Study; estimates are order-of-magnitude engineering cost estimates that are expected to be within +50 to -30 percent of the actual project cost.
** Based on minor revisions to the revised remedy, the cost estimate shown in the Supplemental Feasibility study has been increased from $7,542,000 to $7,830,000. See Section L below.
*** Exclusive of relocation and redevelopment-related costs.

There is significant variation in the estimated costs associated with the five alternatives, ranging between approximately $2,906,000 for Alternative 1 (no further action) and $13,237,000 for Alternative 5 (containment plus extensive waste excavation/reconsolidation).

Alternatives 2 and 3 are considered to be the most cost-effective in terms of providing long-term protectiveness of public health and the environment and achieving the remedial objectives for the site. Alternatives 2 and 3 provide overall long-term protectiveness and minimize the risks associated with excavation and reconsolidation of on-site wastes.

h. State Acceptance

With the exception of Alternative 1, all alternatives were considered generally acceptable by the State. Concerns were raised regarding potential delays and challenges in the coordination of redevelopment activities integral with the remediation involved under Alternative 3. Concerns were also raised regarding

the short-term risks associated with significant excavation and reconsolidation of waste under Alternatives 4 and 5. The State has provided comment on planning and conceptual design of alternative systems selected for remediation of the site.

i. Community Acceptance

With the exception of Alternative 1, all alternatives were considered generally acceptable by the community. During public meetings, questions were raised about the effectiveness of containment remedies, and the commentors expressed preferences for remediation that would physically remove all waste and contaminated soil from the site. EPA has determined, however, that excavation and removal of all on-site contamination is not technically or economically practicable. The potential for excavation and offsite disposal of all contamination was evaluated in the Supplemental Feasibility Study and the costs were estimated at approximately $161,000,000. Additionally, excavation and removal of all on-site contamination, or even a substantial portion thereof, would create significant short-term risks associated with exposure to contamination during excavation and offsite transport. Consistent with the NCP and EPA guidance and directives, including *Guidance for Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Sites* (EPA OSWER Directive 9355.3-11, February 1991), and *Presumptive Remedy for CERCLA Municipal Landfill Sites* (EPA Directive 9355.0-49FS, September 1993), EPA has selected containment as the presumptive remedy to address the low-level threat from the site.

Table 7 presents a summary of the comparative evaluation of the Alternatives 1 through 5 that were considered in the Supplemental Feasibility Study. Alternative 2 has been selected for the revised remedy because: (1) it provides both short-term and long-term protectiveness of human health and the environment; (2) it complies with ARARs; (3) it is implementable; (4) it is acceptable to the State of California and the local community; and (5) it is cost-effective.

2. Comparison with Original 1993 ROD-Selected Remedy

EPA has selected Alternative 2 for the revised remedy for the WDI site. While many aspects of the original 1993 ROD remedy are incorporated into the revised remedy, the revised remedy more effectively addresses the risks posed by the site and is more protective of human health and the environment, both in the short- and long-term. Both remedies include construction of a RCRA-equivalent cap over the reservoir section of

TABLE 7
DETAILED ANALYSIS OF ALTERNATIVES IDENTIFIED IN SUPPLEMENTAL FEASIBILITY STUDY
WASTE DISPOSAL, INC. SUPERFUND SITE

	Alternative 1 No-Action	**Alternative 2 (Preferred)** RCRA-Equivalent Capping Systems	**Alternative 3** RCRA-Equivalent Capping with Site Redevelopment	**Alternative 4** RCRA-Equivalent Capping with Partial Waste Excavation	**Alternative 5** Extensive Excavation with RCRA-Equivalent Capping
Description	Includes monitoring of current conditions only	RCRA-Equivalent Cap over reservoir and a monofill cap over all other waste (A). Includes ICs and groundwater monitoring.	Same as Alternative 2 but incorporates redevelopment..	Same as Alternative 2, but includes excavation of Areas 1, 6, & 8 and reconsolidation beneath cap.	Same as Alternative 2, but includes excavation of all waste outside Area 2 and reconsolidation beneath cap.
Overall Protectiveness	Not protective. Exposes future on-site and off-site receptors to site contaminants.	Protects future on-site workers and off-site population.	Protects future on-site workers and off-site population.	Protects future on-site workers and off-site population.	Most protective of future on-site workers and off-site population.
Compliance with State & Federal Requirements	Does not meet landfill closure requirements.	Complies with State and Federal requirements.	Complies with State and Federal requirements.	Complies with State and Federal requirements.	Complies with State and Federal requirements.
Long-Term Effectiveness	Not effective in containing site contamination.	Effective in containing contamination beneath cap.	Effective in containing contamination beneath cap.	Effective in containing contamination beneath cap.	Most effective in containing contamination beneath a RCRA-equivalent cap.
Reduction of Toxicity, Mobility, or Volume	No reduction in mobility of contaminants.	Reduces mobility of contaminants under RCRA-equivalent and monofill cap (A).	Reduces mobility of contaminants under RCRA-equivalent and monofill cap.(A).	Reduces mobility of contaminants under RCRA-equivalent and monofill cap (A).	Best reduction of mobility through waste consolidation under RCRA-equivalent cap.
Short-Term Effectiveness	Moderate site risk due to no action.	Minimal site risk associated with cap construction.	Minimal site risk associated with cap construction.	Increased site risk due to excavation of soils during consolidation and cap construction.	Greatest site risk due to excavation of soils during consolidation and cap construction.
Implementability	Implementable since no-action alternative.	Implementable, but with potentially difficult occupant relocation issues. Uses established capping technologies.	Implementable only if City proceeds with redevelopment. Potentially difficult design and implementation coordination issues. May involve substantial delays for remedy implementation.	Implementable but difficult controlling exposures during construction, and with difficult occupant relocation issues.	Implementable but difficult controlling exposures during construction, and with difficult occupant relocation issues.
Cost (30-Year) (B), (C), (D)	$2,906,000	$7,830,000 (E)	$7,396,000	$11,258,000	$13,237,000
State Acceptance	No	Yes	Yes	Yes	Yes
Community Acceptance	No	Yes	Yes	Yes	Yes

Notes:
(A) The "monofill cap" is termed "engineered cap" in EPA's revised remedy for this Amended ROD.
(B) Does not include redevelopment costs
(C) Reference: May 2001 Supplemental Feasibility Study
(D) Cost estimates are based on the best available information regarding the anticipated scope of the remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. Major changes may be documented in the form of a memorandum in the Administrative Record file, an Explanation of Significant Difference (ESD), or an Amended ROD. Estimates are order-of-magnitude engineering cost estimates that are expected to be within +50 to -30 percent of the actual project cost.
(E) Since completion of the Supplemental Feasibility Study and issuance of the Proposed Plan, EPA has made minor revisions to the scope and estimated cost of the selected remedy, from $7,542,000 to $7,830,000; See Section L of this Amended ROD.
(F) Exclusive of relocation/redevelopment-related costs.

Area 2; however, the revised remedy does not incorporate extensive excavation of buried wastes outside the reservoir and reconsolidation of waste beneath the cap. In this respect, the revised remedy is more protective in the short-term because it eliminates short-term exposure to wastes that could result from significant excavation and consolidation. Under the revised remedy, buried waste outside the reservoir will be capped in situ using several engineered capping systems, including engineered-graded soils, asphalt, and concrete.

The revised remedy also addresses risks posed by soil gas by including selection of soil gas standards and installation of (a) a gas collection and extraction system under the RCRA-equivalent cap and (b) a passive bioventing system (or active soil vapor extraction systems if bioventing proves ineffective based on soil gas monitoring) in certain areas outside of the reservoir (in Area 2).

The revised remedy adds to the original remedy a liquids collection system to collect leachate and free liquids for offsite treatment and disposal at facilities approved by EPA. The revised remedy also includes implementation of engineering controls, such as physical barriers and ventilation systems, in existing buildings over buried waste. If such controls are not feasible, buildings may have to be demolished and removed. In some cases, in order to install engineering controls, temporary relocation of the building facilities would be necessary. Both the original and the revised remedy provide for ICs to limit exposure to buried wastes and contaminants remaining on-site. Under the revised remedy, the ICs would include easements and environmental restrictions to be recorded on the properties at the site, as well as local ordinances and regulations prohibiting certain uses of the site and groundwater. Finally, the revised remedy provides for long-term groundwater monitoring and long-term monitoring and O&M of all remedy components. Table 8 provides a comparison of the elements of the remedy selected in the 1993 ROD and the revised remedy selected in this Amended ROD.

Table 9 provides a summary comparison in terms of the CERCLA 9-point criteria between the original 1993 remedy and the revised remedy addressed in this Amended ROD.

L. Revised Remedy

1. Rationale for the Revised Remedy

Based on the requirements of CERCLA, the detailed analysis of the alternatives using the nine criteria specified in the NCP, and public comments, EPA has selected Alternative 2 as the basis for the revised remedy for the WDI site. Alternative 2 provides both long-term and short-term protectiveness of human health and the environment. The use of RCRA-equivalent and engineered capping systems will provide containment to minimize the potential for exposure to buried wastes,

TABLE 8

COMPARISON BETWEEN COMPONENTS OF ORIGINAL 1993 SELECTED REMEDY AND REVISED REMEDY WASTE DISPOSAL, INC. SUPERFUND SITE

Activity/Component	1993 Selected Remedy	Revised Remedy
Excavation of Waste & Contaminated Soils	Excavation of waste in designated areas to achieve cleanup standards	---
Waste Reconsolidation	Reconsolidation of excavated materials (approx. 78,000 cy) beneath a RCRA-equivalent cap to be installed over main reservoir in Area 2.	---
RCRA-Equivalent Cap	Installation of a RCRA-equivalent cap over the reservoir, other designated areas in Area 2, and some minor portions of the perimeter covering approximately 17 acres (750,000 square feet) of the site.	Installation of a RCRA-equivalent cap over reservoir in Area 2 (approx. 306,000 square feet).
Extraction & Treatment of Subsurface Gases (Area 2)	Placement of perforated piping for passive gas extraction of subsurface gases throughout area to be capped if necessary. Use of flaring and additional treatment if necessary to meet performance standards. Monitoring of gases and, if required, installation of an active extraction system.	Installation of a gas migration control system under a RCRA-equivalent cap. System will be designed to be an active system (mechanical blower/vacuum driven) and include treatment of gas emissions with Granular Activated Carbon (GAC); conversion to a passive gas (non mechanical driven) migration control system will be considered after one year depending on gas volumes and gas emission rates. Implementation of long-term gas monitoring as part of O&M .
Extraction & Treatment of Subsurface Gases (Outside Area 2)	Monitoring of gases emanating from the site and installation of an active extraction system if required.	In designated areas outside of reservoir area, installation of passive bioventing systems or active soil vapor extraction (SVE) wells with treatment. Implementation of long-term gas monitoring as part of O&M including monitoring of ambient air in onsite buildings.
Liquids Management Systems	---	Installation of a liquids collection system under the cap (in Area 2) to collect leachate and free liquids for offsite treatment and disposal at a facility approved by EPA.
Engineered Capping Systems	---	Installation of engineered capping systems in Areas 1, 2, 4, 5, 6, 7, 8 (approx. 638,000 square feet), outside of reservoir, including engineered graded soil, asphalt, and concrete capping systems.
Engineering Controls	---	Implementation of engineering controls including physical barriers and ventilation systems at and/or within existing and new buildings overlying or adjacent to waste. Demolition and removal of some existing structures may be required where engineering controls are not feasible.
Access & Institutional Controls (ICs)	Implementation of ICs to control future land use, protect the integrity of the cap, prevent exposure to contaminated soils, and prohibit shallow groundwater use.	Implementation of approved ICs to control future land use, protect the integrity of the cap, prevent exposure to contaminated soils, and prohibit shallow groundwater use.
Groundwater Monitoring	---	Implementation of long-term groundwater monitoring program
Operations and maintenance (O&M)	---	Implementation of long-term O&M.
ARARs	Hazardous Waste Control Act (Health and Safety Codes, Div. 20, Chapter 6.5, State equivalent of RCRA, California Code of Regulations [CCRs] Title 22); California Integrated Waste Management Board (CIWMB), CCR Title 14; Porter-Cologne Water Quality Act; South Coast Air Quality Management Board (SCAQMB) rules.	Includes and refines ARARs from 1993 ROD: CIWMB CCR Title 14 combined with SWRCB regulations into CCR Title 27; adds groundwater monitoring requirements from CCRs Title 22 and Title 27.

TABLE 9

9-POINT CERCLA CRITERIA COMPARISON BETWEEN ORIGINAL 1993 REMEDY AND AMENDED PREFERRED REMEDY WASTE DISPOSAL, INC. SUPERFUND SITE

Description	Originally Selected Remedy Excavation and reconsolidation of waste outside of Area 2 under a RCRA-equivalent cap in Area 2 with passive soil gas collection and monitoring.	Alternative 2 (Preferred) RCRA-Equivalent Cap over reservoir (Area 2) and engineered soil, asphalt, and concrete capping systems over all other waste. Gas migration control, leachate control, soil gas and groundwater monitoring, O&M, and institutional controls.
Overall Protectiveness	Not protective. Does not address significant previously undetected waste outside Area 2.	Protects future on-site workers and off-site population. Addresses wastes found outside of Area 2.
Compliance with State & Federal Requirements	Does not meet landfill closure requirements since it did not address all on-site waste.	Complies with state and federal requirements.
Long-Term Effectiveness	Not effective in containing all known site contamination.	Effective in containing contamination beneath caps.
Reduction of Toxicity, Mobility, or Volume	Limited reduction of mobility of contaminants due to incomplete containment of all known waste.	Substantially reduces mobility of contaminants under RCRA-equivalent cap and engineered capping systems.
Short-Term Effectiveness	Moderate site risk due to incomplete containment of all known waste; minimal risks because of exposure during construction/excavation.	Minimal risk of exposure to wastes during cap construction.
Implementability	Uses established capping technologies.	Uses established capping, gas control, leachate collection, and monitoring technologies. Potentially difficult relocation issues.
Cost (30-Year)	$5,170,950*	$7,830,000**
State Acceptance	Yes (1993)	Yes (2002)
Community Acceptance	Not acceptable. Concerns and additional information raised by community and commentors.	Generally acceptable (with mitigation [e.g., line-of-sight barrier] for community impacts)

Notes:
* 1993 cost estimate

** Revised from May 2001 Supplemental Feasibility Study. See Section L of this Amended ROD.

contaminated soils, and subsurface gases. The use of liquids and soil gas collection and extraction systems will remove and treat liquids and vapor associated with the site. Because there is no indication that the site has contributed to exceedances of groundwater standards, only monitoring will be undertaken to address groundwater. The containment systems, however, will prevent the infiltration of rainwater which might otherwise contribute to groundwater contamination by flushing contaminants present in vadose zone soils below the water table. ICs will be implemented to protect the integrity of the capping systems, restrict future land use, restrict potential future groundwater use, and ensure access for ongoing O&M activities.

Alternative 2 complies with ARARs and is implementable using readily available and proven capping technologies. Engineering controls will be installed to protect on-site businesses from soil gas emissions. Alternative 2 is cost-effective, providing a high level of protectiveness at reasonable cost. Alternative 2 also considers current and future land uses and anticipates the likelihood that the WDI site will be targeted for industrial redevelopment by other parties. At the same time, implementation of Alternative 2 is not dependant on successful redevelopment activities as is Alternative 3.

2. Description of the Revised Remedy

The revised remedy under this Amended ROD addresses the increased lateral extent of waste material and soil gas outside of the reservoir and Area 2, including additional waste containment and gas collection, extraction, and migration control systems beyond those identified in the original ROD. Capping will be implemented through the use of a RCRA-equivalent cap over the reservoir (in Area 2) with the addition of several types of other engineered capping systems beyond the reservoir. Based on additional information obtained since the original 1993 ROD, the extent and volume of waste are sufficiently great that it is not practical or cost-effective to excavate waste from the site perimeter for reconsolidation beneath the cap in Area 2. An analysis of a partial excavation alternative (Alternative 4) was performed in the Supplemental Feasibility Study and evaluated in the Proposed Plan. EPA determined that this excavation alternative was significantly more costly (over $11 million), posed a number of risks, and would not provide sufficient benefits to warrant the substantial additional costs compared to containment. The revised remedy in the Amended ROD also addresses soil gas collection, treatment, and migration control systems and adopts soil gas performance standards. Gas collection and extraction systems will be installed to remove and treat soil vapor from beneath the capped areas in the reservoir area. Passive gas migration control systems (e.g. bioventing wells) or active gas extraction systems (soil vapor extraction systems) will be installed outside of the reservoir and Area 2. In-business air will be monitored to ensure protectiveness of the gas migration or gas extraction components. A liquids collection system will be installed to collect leachate and free liquids from within the reservoir boundary. Institutional controls will be implemented to prevent exposure to waste and to protect the integrity of the

components.

As a final remedy, the revised remedy also includes long-term O&M of all environmental control systems associated with the site to ensure that all systems are functioning effectively and to control access to the site. Long-term monitoring of remedial systems will be conducted to demonstrate that performance standards and ARARs are achieved. Based on these monitoring results, EPA may require implementation of additional remedial systems and corrective actions as required to assure that performance standards and ARARS are sustained. Long-term O&M includes work needed to provide aesthetic mitigation measures to minimize community impacts and ensure that site systems are aesthetically compatible with the surrounding land uses to the maximum extent practicable.

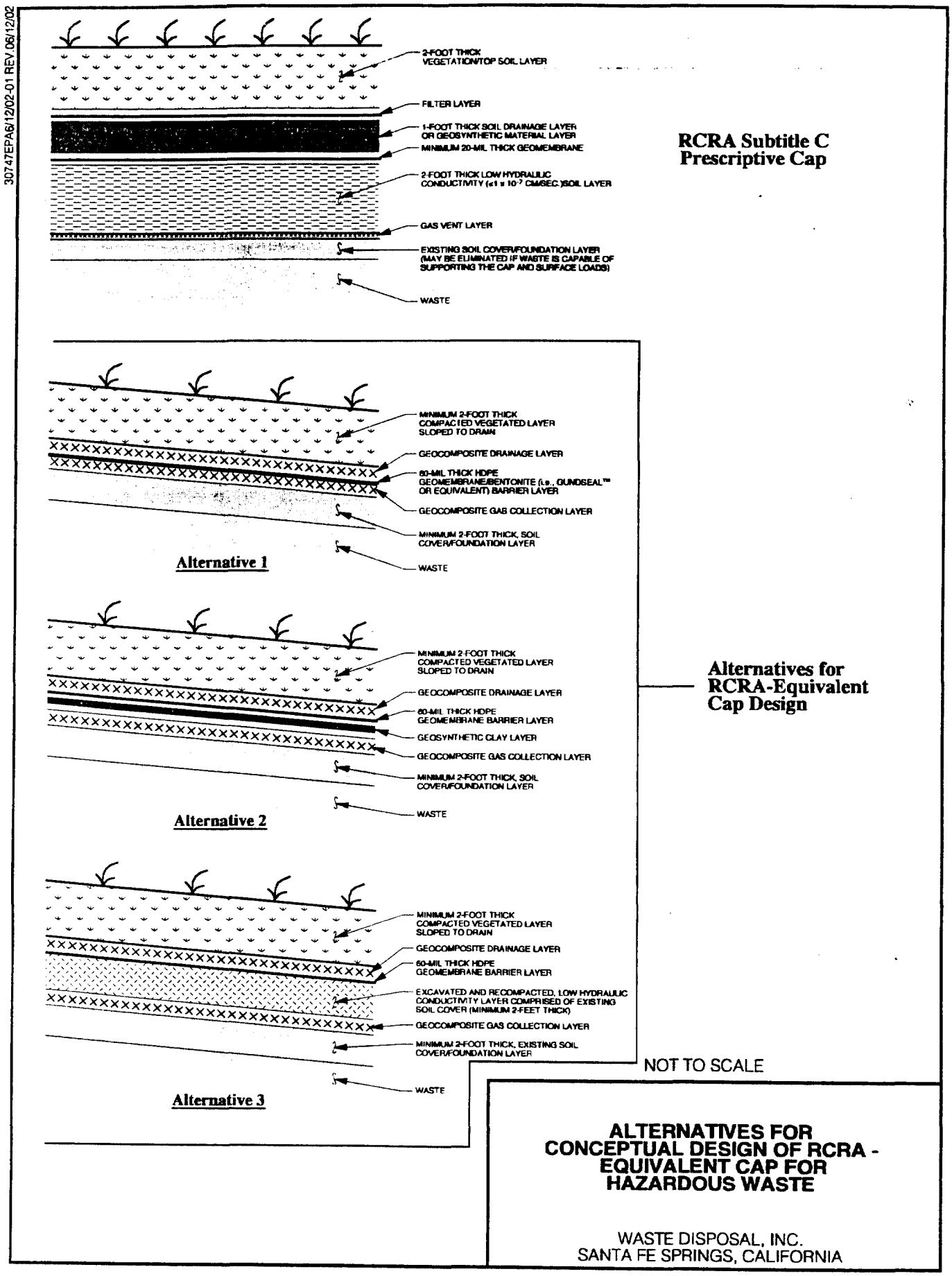
3. Components of the Revised Remedy

a. RCRA-equivalent Cap (Reservoir - Area 2): Capping is EPA's presumptive remedy for landfills. Consistent with the NCP and EPA guidance, including *Guidance for Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Sites* (EPA OSWER Directive 9355.3-11, February 1991), and *Presumptive Remedy for CERCLA Municipal Landfill Sites* (EPA Directive 9355.0-49FS, September 1993), the remedy uses containment to address the low-level threat from the site. This remedy incorporates a RCRA-equivalent cap to provide containment for the reservoir portion of Area 2. The cap shall be designed to meet RCRA-equivalent engineering and performance standards for hazardous waste containment, and include a composite, multiple-layered barrier that will incorporate an engineered system including a geosynthetic layer (e.g., a geosynthetic clay layer [GCL]) and additional earthen materials designed to prevent direct exposure to buried waste and minimize surface water infiltration.

The proposed RCRA-equivalent cap will cover an estimated 306,000 ft^2 area at the WDI site. The equivalent cap design will include generically the following layers, from top to bottom:

- A 2-foot thick vegetative layer (sloped to drain)
- A drainage layer
- A multiple-component composite barrier layer
- A gas collection layer
- A foundation layer (a minimum of 2 feet thick above buried waste material)

Several alternative designs for the RCRA-equivalent cap are shown in Figure 8. Exact specifications for the RCRA-equivalent cap will be finalized during the remedial design process. Design submittals will include (1) evaluations of


3047EPA6/12/02-01 REV 06/12/02
2-FOOT THICK VEGETATION/TOP SOIL LAYER
FILTER LAYER
1-FOOT THICK SOIL DRAINAGE LAYER OR GEOSYNTHETIC MATERIAL LAYER
MINIMUM 20-MIL THICK GEOMEMBRANE
2-FOOT THICK LOW HYDRAULIC CONDUCTIVITY (<1 x 10-7 CM/SEC.)SOIL LAYER
GAS VENT LAYER
EXISTING SOIL COVER/FOUNDATION LAYER (MAY BE ELIMINATED IF WASTE IS CAPABLE OF SUPPORTING THE CAP AND SURFACE LOADS)
WASTE
RCRA Subtitle C Prescriptive Cap
MINIMUM 2-FOOT THICK COMPACTED VEGETATED LAYER SLOPED TO DRAIN
GEOCOMPOSITE DRAINAGE LAYER
60-MIL THICK HDPE GEOMEMBRANE/BENTONITE (i.e., GUNDSEAL™ OR EQUIVALENT) BARRIER LAYER
GEOCOMPOSITE GAS COLLECTION LAYER
MINIMUM 2-FOOT THICK, SOIL COVER/FOUNDATION LAYER
WASTE
Alternative 1
MINIMUM 2-FOOT THICK COMPACTED VEGETATED LAYER SLOPED TO DRAIN
GEOCOMPOSITE DRAINAGE LAYER
60-MIL THICK HDPE GEOMEMBRANE BARRIER LAYER
GEOSYNTHETIC CLAY LAYER
GEOCOMPOSITE GAS COLLECTION LAYER
MINIMUM 2-FOOT THICK, SOIL COVER/FOUNDATION LAYER
WASTE
Alternative 2
MINIMUM 2-FOOT THICK COMPACTED VEGETATED LAYER SLOPED TO DRAIN
GEOCOMPOSITE DRAINAGE LAYER
60-MIL THICK HDPE GEOMEMBRANE BARRIER LAYER
EXCAVATED AND RECOMPACTED, LOW HYDRAULIC CONDUCTIVITY LAYER COMPRISED OF EXISTING SOIL COVER (MINIMUM 2-FEET THICK)
GEOCOMPOSITE GAS COLLECTION LAYER
MINIMUM 2-FOOT THICK, EXISTING SOIL COVER/FOUNDATION LAYER
WASTE
Alternative 3
Alternatives for RCRA-Equivalent Cap Design
NOT TO SCALE
ALTERNATIVES FOR CONCEPTUAL DESIGN OF RCRA - EQUIVALENT CAP FOR HAZARDOUS WASTE
WASTE DISPOSAL, INC.
SANTA FE SPRINGS, CALIFORNIA

alternative RCRA-equivalent capping designs, and (2) demonstrations that the proposed capping design will achieve the general performance objectives and specific performance standards for RCRA hazardous waste landfill covers. Monitoring will be conducted to evaluate compliance with cap performance standards and ARARs.

b. Engineered Capping System: The "engineered capping system" (referred to in the Proposed Plan and the Supplemental Feasibility Study as a "monofill cap"), is a generic term intended to include several different capping configurations. The engineered capping systems may include an evapotranspirative graded soil monofill cover (or "monocover" that uses low conductivity soils and vegetation to control subsurface infiltration), a multi-layered soil cap, asphalt, and/or concrete, that will be utilized to cap different areas of the site. Capping systems for areas outside the reservoir (in Area 2) will be designed to achieve performance standards for RCRA solid waste landfills, including a 1-foot thick barrier layer with a hydraulic conductivity of 10^{-6} centimeters per second (cm/sec). Several alternative designs for the RCRA-equivalent caps are shown in Figure 9. The exact design and specifications for the engineered capping systems will be finalized during the remedial design process. Design submittals will include (1) evaluations of alternative capping designs, and (2) demonstrations that the proposed capping designs will achieve the general performance objectives and specific performance standards for RCRA solid waste landfill covers.

The engineered capping system will contain areas underlain by waste materials in Areas 1, 2, 4, 5, 6, 7, and 8. A total of approximately 638,240 square feet (ft^2) of area will be covered by these capping systems. The waste materials at the site are presently covered by approximately one to fifteen feet of fill material. This fill material is random in nature ranging from fine grain soil to gravel with construction debris. The fill material may satisfy the performance requirements for a soil monofill cap. The engineered capping systems will be designed to promote drainage and, with suitable vegetation, minimize erosion, accommodate settling and subsidence, and function with a minimum of maintenance.

During design and construction of the engineered capping systems, the existing fill material will be analyzed at a frequency intended to assure that it complies with the appropriate engineering properties and designated performance requirements for hydraulic conductivity, compaction, density, moisture content, and structural loading. Material for the soil monocover will be excavated, reconditioned, replaced, and compacted. Areas containing unsuitable materials will be reconditioned. If waste is encountered, it will be removed and reconsolidated under an engineered cap; waste materials will not be incorporated in any engineered cap. Surfaces will be regraded, where necessary, to improve drainage. The surfaces will also be vegetated with

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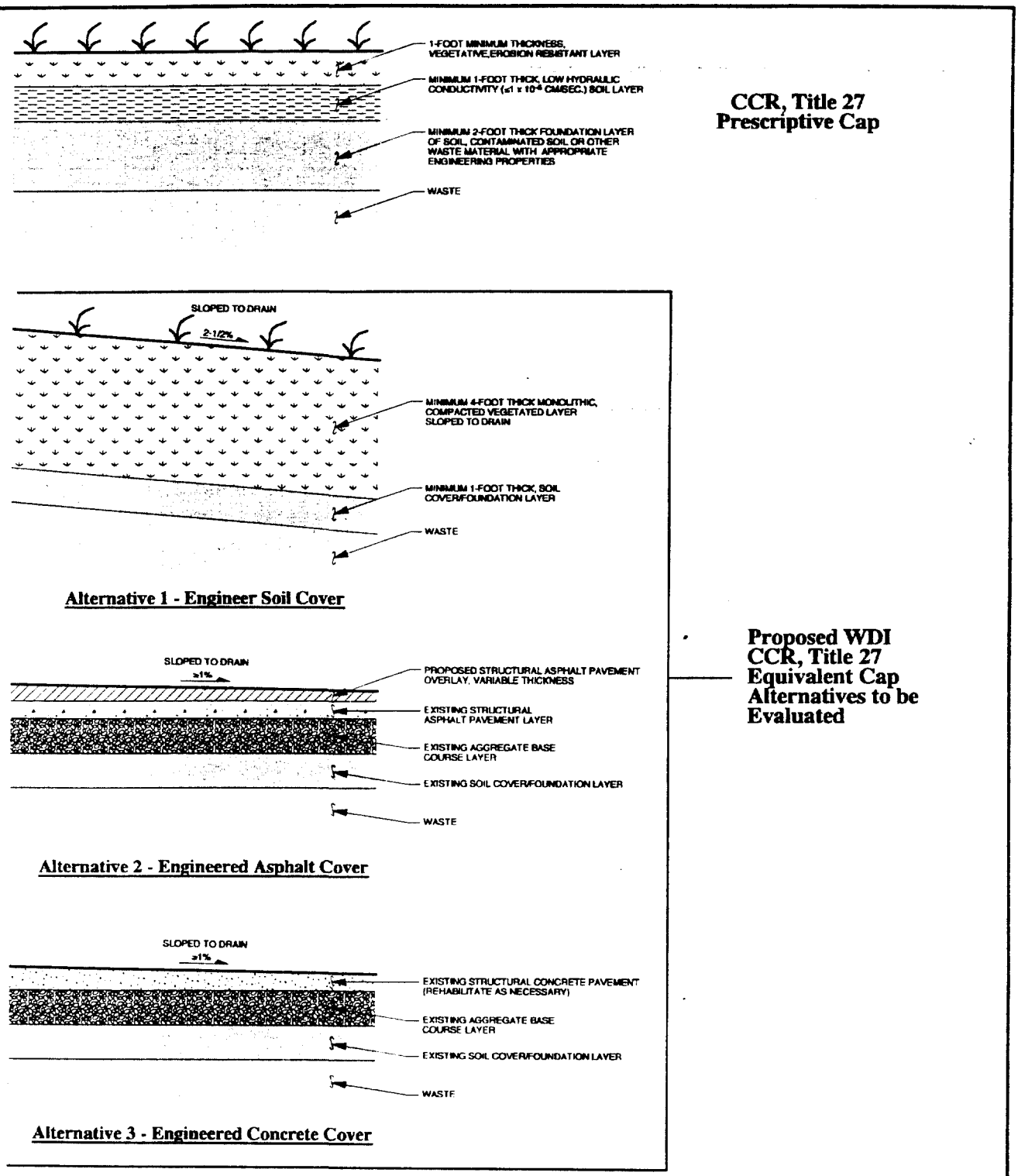


ALTERNATIVES FOR CONCEPTUAL DESIGN OF ENGINEERED CAPPING SYSTEMS FOR SOLID WASTE

WASTE DISPOSAL, INC.
SANTA FE SPRINGS, CALIFORNIA

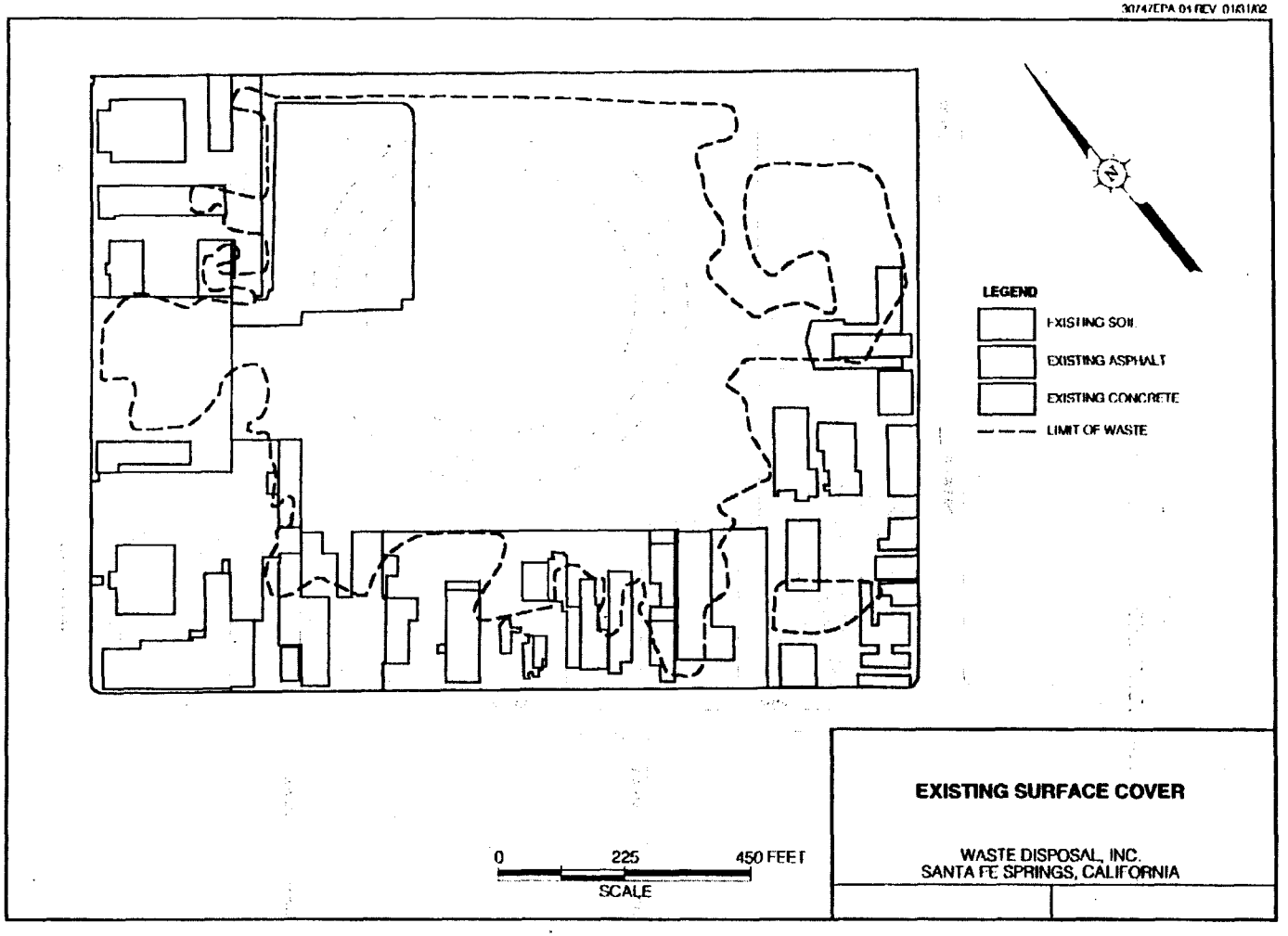
Figure 9

drought-resistant native plants to provide protection against erosion. If an irrigation system is required, the system will be carefully controlled to prevent over-watering, which could lead to increases in the amount of liquids in contact with the waste. In areas that are currently covered by paving or foundations, the asphalt and/or concrete will be evaluated for serviceability, and specifications for rehabilitation and improvement as necessary to meet the performance standards for engineered capping systems will be finalized during remedial design. Features of the existing surface cover for the site are shown on Figure 10.

c. Gas Collection & Extraction (Reservoir in Area 2): A soil gas collection and extraction system will be installed beneath the RCRA-equivalent cap that will consist of a geocomposite gas collection layer and a network of collector pipes installed immediately beneath the geomembrane barrier layer. A conceptual layout for the gas collection system is shown on Figure 11. Initially, this gas collection system will be operated as an active system by using a blower to create a negative pressure on the system. The extracted gases from the reservoir area will be treated by an appropriate technology (e.g., Granular Activated Carbon [GAC]) to achieve ARARs for emissions. The engineering details of the system will be determined during remedial design. Monitoring of COCs in gas emissions during O&M will be conducted to demonstrate that the gas control system complies with ARARs.

Following the first year of operation, EPA may determine that the gas volumes and gas emission rates are low enough so that the blower operation could be terminated and the system run as a passive gas collection system. The active extraction system would be shutdown in phases including steps for intermittent (i.e., pulsing) operations, before transition to a passive system would be completed. Implementation of changes to system operations and gas treatment (i.e., transitioning to a passive system, and modification or suspension of gas treatment) will be required to comply with ARARs and Performance Standards and be subject to prior EPA review and approval.

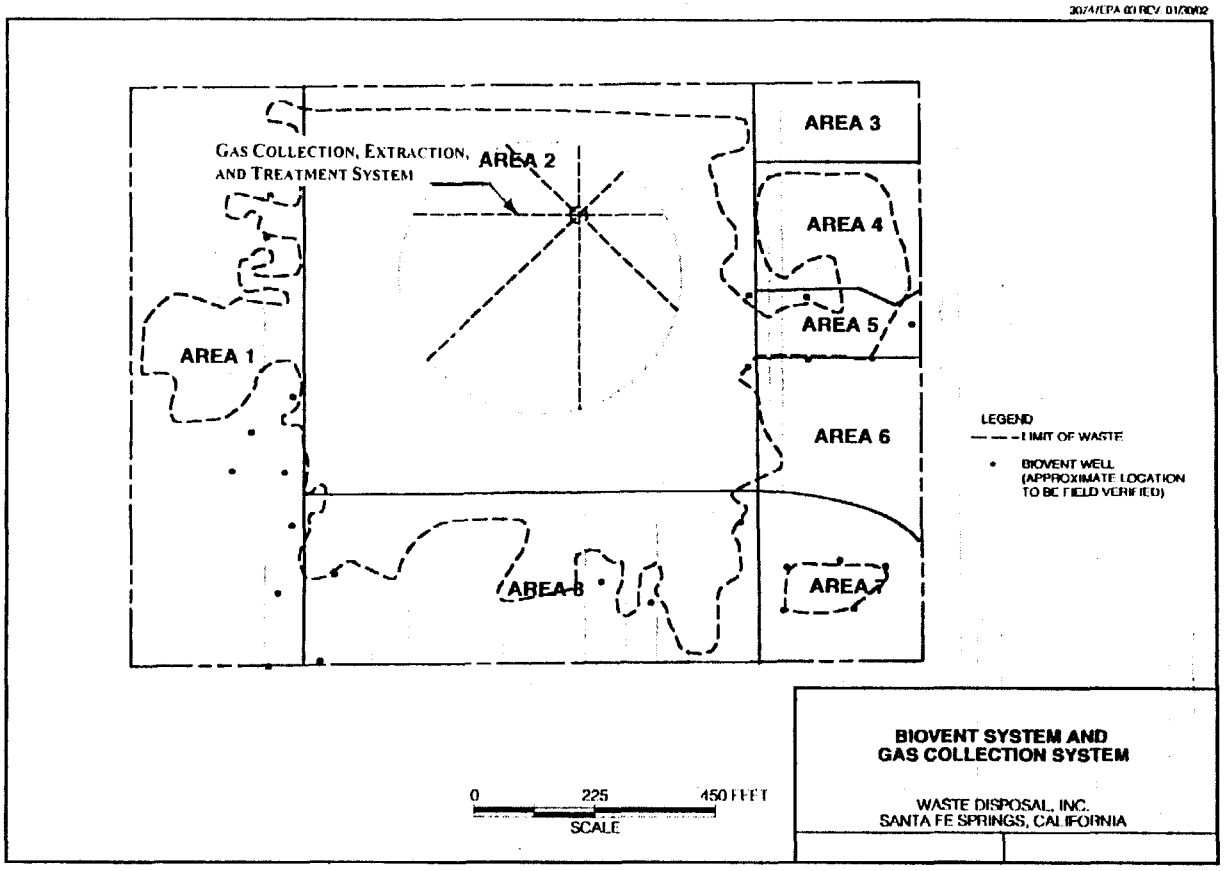
d. Liquids Collection, Treatment, and Disposal: System components will be provided for storage, handling, and treatment (as necessary) of wastes generated from implementation of the revised remedy. The liquids collection system will include LCPs that consist of recovery wells to be installed within the reservoir boundary (in Area 2) to monitor for the existence of free-liquids within the buried waste. The reservoir liquids extracted from the reservoir LCPs, as well as other wastes generated during the revised remedy, will be characterized, stored, treated, and disposed of in accordance with chemical-specific ARARs. Hazardous waste criteria incorporated in the ARARs are applicable to site liquids for the purposes of determining handling and off-site disposal requirements. Off-site disposal will be at facilities approved by EPA. Locations for the LCPs and



WASTE DISPOSAL, INC.

AMENDED RECORD OF DECISION

Figure 10
Existing Surface Covers



WASTE DISPOSAL, INC.

AMENDED RECORD OF DECISION

Figure 11

Conceptual Gas Collection/Migration Control Systems

other liquids collection system components will be established during the remedial design.

e. Engineering Controls: Engineering controls will be installed in existing buildings to minimize the potential for exposure to buried wastes and soil gas. Some of the existing buildings are constructed over the buried waste materials. Where technically feasible, these buildings will be provided with engineering controls to prevent the potential build-up of soil gases in their interiors. The engineering controls may consist of sealing penetrations in the floor slabs, installation of passive or active gas venting systems below floor slabs, installation of positive pressure heating, ventilation, and air conditioning (HVAC) improvements, or some combination of these controls to be determined during remedial design. In-business air will continue to be monitored to assure that the soil gas migration control or gas extraction systems (see discussion below in paragraph 3. f. of this section) remain protective of human health and are functioning effectively.

The northwestern portion of the reservoir area is covered with an asphalt parking lot (approximately 3 acres) that is currently used for recreational vehicle storage. EPA expects that this vehicle storage facility will require relocation to allow for construction of the RCRA-equivalent cap and engineered capping systems in Area 2.

Where it is not technically feasible to retrofit the existing structures to install engineering controls, the existing structures shall be demolished and removed, and an engineered cap constructed over the buried waste. The decision concerning whether to provide engineering controls or remove particular existing buildings will be finalized during remedial design. Criteria to be considered in determining which structures may need to be demolished include:

- Structures that are located over waste or contaminated soil;
- Structures that are susceptible to the build-up of soil gas emissions;
- Structures with concrete foundation slabs that are severely cracked or damaged;
- Structures with designs that preclude retrofitting to install engineering controls;
- Structures with internal equipment that precludes installation of engineering controls;
- Structures that would preclude or interfere with construction and O&M of the remedy;

Any permanent or temporary relocations of businesses at the site necessary for implementation of the remedy as revised in this Amended ROD shall be undertaken in a manner consistent with policies of the Uniform Relocation

Assistance and Real Property Acquisition Policies Act (42 U.S.C. §§ 4600 *et seq*) and its implementing regulations (49 CFR §§ 24 *et seq*). Any persons displaced as a direct result of the remedy as revised in this Amended ROD shall be treated fairly, consistently and equitably.

Access to the WDI site will be controlled through the use of appropriate physical barriers, such as fences and walls, that will be designed to be aesthetically compatible with existing and anticipated future land uses.

Mitigation of site impacts will include construction of a barrier (landscaping in combination with other appropriate structures) that blocks a direct-line-of-sight between the site and the adjacent high school, playing fields, and parking lot. In addition, the barrier will prevent drainage from flowing onto the high school property, and will reduce transmission of noise and limit visual access to the school playing fields and parking lot for enhanced school facility security.

f. Gas Migration Control or Additional Gas Extraction Systems (Outside of the Reservoir in Area 2): In addition to the gas collection and extraction systems that will be installed under the cap for the reservoir, passive gas migration control or active gas extraction systems will be installed around the perimeter of the engineered capping systems outside of the reservoir. These systems will reduce generation of methane, enhance biodegradation of hydrocarbons, and prevent migration of gases beyond buried waste perimeters and site boundaries. These controls will include passive bioventing wells, soil vapor extraction systems, or other appropriate technology as necessary to comply with performance standards and ARARs for soil gas emissions. A conceptual layout of bioventing well locations is shown on Figure11. Monitoring for COCs in soil gas during O&M will be conducted to assure that gas extraction or gas migration control systems comply with performance standards (see discussion below in this Section) and ARARs. The revised remedy incorporates in-business air quality monitoring. The layout of vapor monitoring well locations will be developed during remedial design. Location of monitoring points, frequency of sampling, methods of analyses, and procedures for data evaluation and reporting will also be determined during remedial design.

g. Institutional Controls: Institutional controls will be implemented in order to ensure the long-term integrity of the remedy and to prevent exposure to waste remaining at the site.

The objectives of institutional controls for the WDI site are:

- To provide notification to all potential site users of the presence of hazardous materials and on-site contamination;

- To provide notification to potential site users concerning the presence and location of all remedial systems;

- To expressly prohibit residential land use on any part of the site and limit future uses to certain industrial activities;

- To minimize the potential for exposure of future site users to site related hazardous materials (including waste materials, groundwater, and/or soil gas emissions);

- To protect the integrity of the remedy from any activity that may interfere with the effective O&M of remedial control and monitoring systems;

- To provide access to the site for appropriate regulatory agencies and responsible parties engaged in approved remedial actions and monitoring activities.

To implement these objectives, EPA anticipates that restrictive covenants will be executed and recorded on all of the properties at the WDI site, as well as any other properties which EPA determines may require institutional controls to achieve the objectives listed above. The restrictive covenants shall run with the land and be enforceable under California law (including California Civil Code Section 1471) against all future property owners and tenants. EPA shall oversee compliance with the use restrictions. The restrictive covenants shall provide for access by EPA and the State, as well as by PRPs conducting the remedial action, and their contractors, for the following purposes:

1. Monitoring the remedial action, and monitoring and O&M;
2. Verifying any data or information submitted to EPA or the State;
3. Conducting investigations relating to contamination at or near the site;
4. Obtaining samples;
5. Assessing the need for, planning, or implementing additional response actions at or near the site;
6. Assessing implementation of quality assurance and quality control practices as defined in the approved Quality Assurance Project Plans;
7. Implementing the remedial action, monitoring, and O&M;
8. Assessing compliance with the access easements and environmental restrictions; and
9. Determining whether the site or other property is being used in a manner that is prohibited or restricted by the environmental restrictions, or that may need to be prohibited or restricted.

The land use restrictions in the restrictive covenants shall include compliance by

all users of the properties with the following restrictions:

1. Placement of warning signs or other posted information shall be allowed and, once posted, no removal or interference with such signs or information shall be permitted.
2. Placement of site access controls, such as gates or fencing, shall be allowed and shall not be damaged or circumvented.
3. The site or such other property shall not be used in any manner that may interfere with or affect the integrity of the remedial cap or other components of the remedy, as constructed pursuant to this Amended ROD.
4. Construction not approved by EPA that impacts any of the remedial capping or other remedy components shall not occur.
5. No interference with or alterations to the grading, vegetation and surface water and drainage controls shall be made without the prior written approval of EPA.
6. Portions of the site or such other adjacent property underlain by waste materials or in soil gas noncompliance areas shall not be regraded without the prior written approval of EPA.
7. Areas of asphalt or concrete pavement shall not be removed or improved without the prior written approval of EPA.
8. No penetrations or interferences (including, but not limited to, utility trench excavations, excavations for fence posts, excavations for planting trees or large bushes, foundation excavations, and foundation piles) within the remedial cap or any other areas with remedial controls shall occur without the prior written approval of EPA.
9. Deep-rooting plants (plants whose root systems will penetrate more than two feet below ground surface) shall not be planted without the prior written approval of EPA.
10. Approval from EPA must be obtained for settings of irrigation controls. Such settings shall not be changed without the prior written approval of EPA.
11. Drainage channels and pipes shall not be blocked, rerouted or otherwise interfered with without the prior written approval of the EPA.
12. No new openings shall be made in building floor slabs in buildings located over waste materials or over soil gas noncompliance areas without the prior written approval of EPA.
13. The integrity of existing and future foundations shall be maintained in areas underlain by waste materials or in soil gas noncompliance areas. All cracks or damage in such foundations shall be reported to EPA and DTSC.
14. Indoor gas controls shall not be circumvented.
15. Indoor gas sensors or alarms shall not be turned off or interfered with.

16. Soil gas control systems shall not be turned off or interfered with.
17. Monitoring points, including but not limited to groundwater monitoring wells, soil gas probes, reservoir (in Area 2) leachate collection wells, soil gas vents, and survey monuments, shall not be blocked or otherwise obstructed.
18. Monitoring wells shall not be opened; nothing shall be placed into the monitoring wells except by authorized personnel permitted to monitor the wells.
19. Liquids recovery systems, liquids treatment systems, and treated liquids storage facilities shall not be turned off or interfered with.
20. Groundwater supply or monitoring wells shall not be constructed without the prior written approval of EPA, and there shall be no extraction of or injection into groundwater on the site.
21. Owners of the site or any portion thereof shall disclose all institutional controls to all tenants on the property.
22. Owners of the site or any portion thereof shall inform EPA of the identities of all tenants on the property.
23. During construction, excavation, or grading of any type, measures shall be taken to ensure that there is no offsite migration of dust, odors or organic vapors. During such activities, appropriate measures shall be taken to protect the health and welfare of on-site personnel and workers and to prevent offsite impacts.
24. Prior written approval must be obtained from EPA for all building or site modifications.
25. Waste materials shall not be excavated without the prior written approval of and supervision by EPA.
26. No new construction shall occur on the site without the prior written approval of EPA.
    (a) New construction shall be supported by subsurface explorations and analytical laboratory data to characterize the construction area for the possible existence of waste materials.
    (b) If contaminants are discovered in the construction area, they shall be remediated or buildings and structures must be appropriately designed to protect occupants.
    (c) Appropriate worker and public health and safety precautions, including but not limited to dust control, safety plans, and other forms of worker protection, must be taken prior to approval of construction.
27. Boreholes, foundation piles, or other subsurface penetrations into the reservoir (in Area 2) or any other area of the site which could create conduits allowing wastes to migrate to groundwater shall not be made without the prior written approval of EPA.
28. Construction workers shall be provided with appropriate personal

protective equipment while they are working at the site.
29. Pesticides or herbicides shall not be applied to the capped areas of the site or to areas surrounding monitoring points without the prior written approval of EPA.
30. Use of any septic tanks on the property shall be discontinued and such tanks shall be decommissioned in accordance with local regulations.
31. The site or such other property shall not be used or redeveloped for residential use; use as a hospital, school for people aged 21 and under, or day care center; or other uses by sensitive receptors.

In addition, EPA will work with the City of Santa Fe Springs to ensure that the City's master plan for redevelopment of the site is consistent with the institutional control objectives described in this Amended ROD. EPA may also work with the City of Santa Fe Springs to develop ordinances to prohibit residential use; use as a hospital, school for people aged 21 and under, or day care center; or other uses by sensitive receptors, and to limit activities on the site that have not been approved by EPA.

h. Long-term Groundwater Monitoring: Long-term groundwater monitoring will be conducted to ensure that the site does not contribute to exceedances of groundwater standards. The primary goal of groundwater monitoring will be to detect, as early as possible, releases or migration of contaminants from WDI sources (e.g., buried reservoir in Area 2, buried waste areas, and soil gas to groundwater). The monitoring program will meet the requirements of a detection monitoring program as specified in State of California regulations for interim status hazardous waste management units or facilities. A groundwater monitoring plan shall be developed that outlines a list of parameters to be sampled and analyzed for, methodology, monitoring frequency, and statistical analyses. Objectives of the long-term groundwater monitoring program include:

- Establish a detection monitoring program to monitor potential release, leaching, or migration of contaminants from on-site waste sources to groundwater;
- Comparison of groundwater monitoring data with groundwater MCLs;
- Collection of groundwater elevation data to monitor and document conditions or changes in groundwater flow and potential contaminant migration; and
- Maintain a historical record of groundwater quality data to assess the performance and effectiveness of the soil gas and landfill cover remedial actions that will be implemented for site closure.

i. Long-term O&M: Long-term operations and maintenance (O&M) will be implemented to monitor remedial systems and to ensure that the remedy is functioning effectively. Operations and maintenance will be performed to achieve and sustain ARARs and Performance Standards for all capping systems, leachate and liquids collection and monitoring systems, gas collection and soil gas monitoring systems, groundwater monitoring, engineering controls, irrigation, surface water management and drainage, site access and security, grading, landscaping, use restrictions, and visual impact mitigation.

4. Cleanup and Performance Standards

a. Soil Standards

This Amended ROD does not retain the soil cleanup standards adopted in the 1993 ROD. Since the revised remedy relies on *in-situ* capping of wastes rather than removal, reconsolidation, treatment, or off-site disposal of extensive quantities of buried wastes, EPA determined that soil cleanup standards would not be applicable for implementation of the revised remedy.

b. Soil Gas Performance Standards

Provisional soil gas performance standards were developed by EPA in1999. This Amended ROD adopts those provisional standards as the performance standards for soil gas by using the Region 9 EPA preliminary remediation goals (PRGs) for ambient air (EPA, 2000) and applying an attenuation factor of 100 to account for the dilution of a soil gas contaminant to in-business air. This factor is based on modeling that was performed in EPA's 1989 Final Endangerment Assessment. This value has been compared against literature values; Little et al. (1992) suggests a range of attenuation (0.4 to 0.0004) that could be used for a building at 100 meters distance from a landfill source. As is apparent from this survey, the value assumed for purposes of establishing soil gas performance standards for this Amend ROD falls on the conservative end of this range. Table 10 presents soil gas performance standards for COCs at the WDI site.

The following criteria were used to develop these standards:

- If a chemical is a known carcinogen, the PRG at the $1x10^{-6}$ risk level was multiplied by an attenuation factor of 100;
- If a chemical is a probable carcinogen, the PRG at the $1x10^{-5}$ risk level was multiplied by an attenuation factor of 100;

TABLE 10
SOIL GAS PERFORMANCE STANDARDS(1)
WASTE DISPOSAL, INC. SUPERFUND SITE

CHEMICAL OF CONCERN	2000 EPA AMBIENT AIR PRG(4) (ppbv)(2)	TOXICOLOGICAL BASIS FOR AMBIENT AIR PRG	SOIL GAS PERFORMANCE STANDARD (ppbv)	RATIONALE FOR THE DEVELOPMENT OF THE SOIL GAS PERFORMANCE STANDARD
1,2-Dichloroethane	0.02	probable carcinogen	20	(PRG at 1E-5 cancer risk level) x (attenuation factor) (3) = 0.2 ppbv x 100
1,1-Dichloroethene	0.01	possible carcinogen	100	(PRG at 1E-4 cancer risk level) x (attenuation factor) = 1 ppbv x 100
1,2,4-Trimethylbenzene	1	noncarcinogenic	20	(PRG at HQ of 0.2) x (attenuation factor)
1,2-Dichloroethene (cis)	9	noncarcinogenic	180	(PRG at HQ of 0.2) x (attenuation factor)
1,2-Dichloroethene (trans)	20	noncarcinogenic	400	(PRG at HQ of 0.2) x (attenuation factor)
1,2-Dichloropropane	0.02	probable carcinogen	20	(PRG at 1E-5 cancer risk level) x (attenuation factor) = 0.2 ppbv x 100
1,3,5-Trimethylbenzene	1	noncarcinogenic	20	(PRG at HQ of 0.2) x (attenuation factor)
1,2-Dibromoethane	0.001	probable carcinogen	1	PRG at 1E-5 cancer risk level) x (attenuation factor) = 0.01 ppbv x 100
1,1,1-Trichloroethane	180	noncarcinogenic	3,600	(PRG at HQ of 0.2) x (attenuation factor)
Carbon Tetrachloride	0.021	probable carcinogen	21	(PRG at 1E-5 cancer risk level) x (attenuation factor) = 0.21 ppbv x 100
Benzene	0.1	known carcinogen	10	(PRG at 1E-6 cancer risk level) x (attenuation factor) = 0.1 ppbv x 100
Chloroform	0.02	probable carcinogen	20	(PRG at 1E-5 cancer risk level) x (attenuation factor) = 0.2 ppbv x 100
Ethylbenzene	250	noncarcinogenic	5,000	(PRG at HQ of 0.2) x (attenuation factor)
Methane	--	--	1.25% (near buildings) 5.0% (site perimeter)	1.25% Near Buildings - 25% of Lower Explosive Limit - City of Santa Fe Springs Ordinance; 27 CCR §20937 5% Site Perimeter – 27 CCR §20937
Xylenes	200	noncarcinogenic	4,000	(PRG at HQ of 0.2) x (attenuation factor)
Tetrachloroethene	0.5	probable carcinogen	500	(PRG at 1E-5 cancer risk level) x (attenuation factor) = 5 ppbv x 100
Toluene	100	noncarcinogenic	2,000	(PRG at HQ of 0.2) x (attenuation factor)
Trichloroethene	0.2	probable carcinogen	200	(PRG at 1E-5 cancer risk level) x (attenuation factor) = 2 ppbv x 100
Vinyl chloride	0.1(5)	known carcinogen	10	(PRG at 1E-6 cancer risk level) x (attenuation factor) = 0.1 ppbv x 100

(1) The provisional soil gas standards incorporated in the May 2001 Supplemental Feasibility Study have been modified and adopted for this Amended ROD.
(2) ppbv = parts per billion by volume
(3) Attenuation factor = 100
(4) Revised for the Amended ROD – Same as the 1998 EPA Ambient Air PRGs used in the May 2001 Supplemental Feasibility Study, except for Vinyl Chloride.
(5) Revised from the 1998 EPA Ambient Air PRG of 0.01 ppbv

- If the chemical is a possible carcinogen, the PRG at the $1x10^{-4}$ risk level was multiplied by an attenuation factor of 100;

- If the chemical is a noncarcinogen, the PRG at a hazard quotient of 0.2 was multiplied by an attenuation factor of 100. A hazard quotient of 0.2 is used to take into account exposures to up to five chemicals that are co-located on the site; a hazard quotient of 0.2 is often used by Cal EPA in setting other health-risk based standards such as MCLs for drinking water.

These soil gas performance standards will be applied outdoors in areas near selected buildings and along the perimeter of the site. As part of the revised remedy, gas migration or soil gas extraction including systems for collection, extraction, and treatment of gases (from the reservoir in Area 2 as well as areas outside of the reservoir perimeter) will be implemented and monitored as necessary to attain and sustain these performance standards at near-building locations and at the perimeter of the site. Location of monitoring wells for determination of compliance with these soil gas performance standards will be determined during remedial design.

c. Groundwater Monitoring

The remedy incorporates groundwater monitoring for analyses of the COCs listed in Table 2. Groundwater monitoring will be conducted as part of the revised remedy in order to detect changes in the current groundwater conditions at the site and determine if the site is causing exceedances in groundwater MCLs.

The groundwater monitoring program will include the following elements:

Background wells to monitor and document the quality of groundwater that has not been affected by an on-site release;

Point of Compliance (POC) Wells (downgradient edge of buried wastes, and screened within the uppermost aquifer) to be monitored for detection of potential releases and impacts to groundwater from site-related waste sources;

Near-Source Detection Wells to detect potential site-related releases before impacts are measured at the POC;

Verification Wells or Guard Wells for monitoring downgradient property line wells to ensure that site contaminants (if present in groundwater) do not migrate off-site and potentially impact private or municipal water supply wells.

The groundwater monitoring well network will be determined during remedial design.

The groundwater monitoring program will require evaluation and reporting of all sampling data for EPA review. In the event that changed groundwater conditions are detected as a result of releases for the site, EPA may require additional groundwater sampling and the installation of additional monitoring wells.

5. Summary of Estimated Remedy Costs

As reported in the May 2001 Supplemental Feasibility Study, the capital and O&M costs for Alternative 2 were estimated at approximately $7,542,332. A present worth analysis was performed for each remedial alternative. A discount factor was applied to itemize expenditures for each of the alternatives that occur beyond the base year over the period of analysis. All costs for the alternatives during the period of analysis are related to a common base year. This allows the cost of the final remedial action to be compared on the basis of a single figure representing the amount of money that, if invested in the base year and disbursed as needed, would be sufficient to cover all costs associated with the remedial action and O&M over its planned life.

In conducting the present worth analysis for future costs, assumptions were made regarding the selection of the discount rate and the period of performance. For the WDI site, the discount rate of 3.5 percent was selected based on the difference between the Consumer Price Index (CPI) and the current 30-year long-term bond rate at the time the analysis was conducted. A period of performance of 30 years was adopted in the analysis, based on the minimum 30-year post-closure care requirement for landfill containment systems. It is anticipated, however, that long-term operations and maintenance, environmental monitoring, and periodic costs may extend beyond the minimum 30-year period.

The final cost of the remedy is highly sensitive to the selection of the discount factor due to significant O&M and periodic costs that will be incurred over the period of analysis. In general, a discount rate of 7.0 percent is used to estimate the present value of future costs for Federal facilities, including those under Superfund authority. However, Office of Management and Budget Circular No. A-94 suggests a different discount factor may be applied for sites or projects that meet certain criteria. The criteria include the following:

- Future year expenditures will be high;
- Costs are sensitive to the discount rate; and
- Cost will continue beyond 30 years.

The net present value of the annual and periodic costs is substantial and is estimated to

be approximately 50 percent of the total present value of the revised remedy. Thus, the future year expenditures will be high relative to capital costs. Moreover, due to the relatively high level of future year costs, the total net present value of the remedy is sensitive to the discount rate. Finally, it is anticipated that future costs will continue to accrue beyond a 30-year period. Although a planning period of 30 years was applied in the remedy comparative analysis, O&M, environmental monitoring, institutional controls, and other periodic costs are expected to continue to accrue beyond this period. The WDI site, therefore, meets all three of the criteria described in the OMB Circular No. A-94.

Since completion of the Supplemental Feasibility Study and issuance of the Proposed Plan, EPA has made revisions to the estimated cost for implementation of the revised remedy. These revisions are considered necessary based on further predesign evaluation of Alternative 2 and minor revisions of scope to include mitigation for visual and noise impacts to the community. The cost estimate for the revised remedy has been revised from $7,542,000 to $7,830,000. The revised cost estimate, based on information provided by the WDIG (January 2002), as approved by EPA, is summarized in Table 11.

6. Changes in Expected Outcomes

Implementation of the revised remedy will result in the following changes in expected outcomes:

- Contaminated soil will be contained on the site utilizing engineered capping systems. Activities for reconsolidation of wastes to any significant degree, and removal of wastes and disposal at off-site facilities are not included in the revised remedy under this Amended ROD. Soil cleanup standards adopted in the 1993 ROD have not been retained for this Amended ROD;

- Soil gas performance standards have been adopted by this Amended ROD; remedy components will be constructed, operated and maintained to achieve and sustain performance standards to minimize gas migration from buried waste on the site;

- The revised remedy adds a liquids collection component for the collection of leachate (from the reservoir in Area 2) and other site-related liquids for handling at offsite treatment and disposal facilities;

- This Amended ROD incorporates long-term groundwater monitoring that will detect changes in groundwater quality at the site and ensure that groundwater MCLs are not being exceeded due to WDI waste sources.

TABLE 11

COST ESTIMATE FOR REVISED REMEDY
WASTE DISPOSAL, INC. SUPERFUND SITE

Capital Costs					
Description		Quantity	Unit	Unit Cost	Total Cost
Management Plans					
	Schedule	1	LS	6820	6,820
	Health and Safety Plan	1	LS	6956	6,956
	Sampling and Analysis Plan	1	LS	9722	9,722
	Permits	1	LS	50416	50,416
	NPDES Permits	1	LS	7485	7,485
	NPDES Permits - O&M	1	LS	5141	5,141
	QA/QC Plan	1	LS	9094	9,094
	Traffic Control Plan	1	LS	2162	2,162
	O&M Plan	1	LS	15754	15,754
	Procurement	1	LS	16168	16,168
Construction					
	HO Support	11	MTH	12490	137,390
	Site Admin	6	MTH	52040	312,240
	Site Mob/Demob	1	LS	27020	27,020
	Clear and Grub	19	Acre	1133	21,527
	Close Wells	2960	LF	38	113,072
	Remove Concrete Slabs	32398	SF	1.43	46,329
	Break/Relocate Concrete and Bricks	212	CY	192.21	40,749
	Break Asphalt	130956	LF	0.24	31,429
	Install/Remove Silt Fence	4300	LF	8.49	36,493
	Install/Remove Hay Balse	1000	LF	12.62	12,620
	Overexcavate Fill Areas	64797	CY	3.85	249,156
	Leachate Collection Points	4	EA	1805.25	7,221
	Biovent Wells	25	EA	1761.12	44,028
	Install Building Control System	1	EA	28821	28,821
	Repave Conc Building Control System Trench	1500	SF	8.80	13,200
	Relocate Building Occupants	1	EA	11000	11,000
	Stormwater Pavement Demo/Restoration	50	SF	20.10	1,005
	Anchor Trench Perimeter Drain	1885	LF	50.13	94,496
	Storm Drain to Offsite	1560	LF	36.00	56,163
	Storm Drain Catch Basin Invert	2	EA	4581	9,162
	Geocomposite Gas Collection	300584	SF	0.47	141,255
	Gas Collection System	1920	LF	7.76	14,900
	Install 60 ml HDPE	306355	SF	0.67	204,396
	Install Drain Layer Geocomposite	305355	SF	0.44	135,650
	Install Asphalt Skim Coat	92552	SF	0.78	71,832
	Install Extraction System	1	LS	17444	17,444
	Startup System	1	LS	4081	4,081
	Soil Cover All Areas	77756	CY	11.21	871,679
	Irrigation System North East Corner Only	3360	LF	11.09	37,254
	Seeding of Graded Areas	19.34	Acre	1917	37,068
	Trees/Shrubs North East Corner	1	LS	24943	24,943
	As-Builts	1	LS	44117	44,117
	Grade RV Parking to Surrounding Grades	16735	CY	3.30	55,255
	Demolish Brothers Building	5740	SF	3.53	20,268
	Demolish C+E Building	6400	SF	4.41	28,221
	Install 20' Fence	475	LF	29.70	14,108
	Tennant Relocation	2	EA	50000	100,000
	Subtotal				3,245,310
	Contingency	15%			486,797
	Agency Oversight	10%			373,211
	TOTAL CAPITAL COST				**4,110,000**

Notes:
LS = Lump Sum
MTH = Month
LF = Lineal Feet
SF = Square Feet
CY = Cubic Yard
EA = Each

TABLE 11 (Continued)

COST ESTIMATE FOR REVISED REMEDY
WASTE DISPOSAL, INC. SUPERFUND SITE

Annual Costs of O&M (calculated for a 30-year minimum period)						
Description		Quantity	Unit	Cost/Unit	Ann O&M	Present Worth
Institutional Controls Monitoring (Quarterly)		1	Year	16,992	16,992	312,518
Enforcement Actions (1 per year)		1	Year	10,400	10,400	191,277
Agency Oversight (10% of O&M costs)		1	Year	18,500	18,500	340,253
Soil Gas Monitoring (Quarterly)		1	Year	73,132	73,132	1,345,047
Groundwater Monitoring (Quarterly)		1	Year	29,579	29,579	544,018
In-Business Air Monitoring (Semi-annually)		1	Year	6,304	6,304	115,943
Reservoir Liquid Sump (300 gallon per year)		1	Year	3,835	3,835	70,533
Stormwater Monitoring (4 samples per year)		1	Year	2,200	2,200	40,462
Biovent Monitoring						
	First year (25 samples, semi-annually)	1	Year	26,450	26,450	25,556
	Years 2-30 (25 samples per year)	1	Year	11,275	11,275	203,353
Soil Gas Control System Beneath Res. Cap						
	First year (12 samples)	1	Year	4,620	4,620	4,464
	Years 2-30 (4 samples per year)	1	Year	1,540	1,540	27,775
	Replace Stand Pipe once at 10 years	1	Year	75	75	624
	Replace Stand Pipe once at 20 years	1	Year	37	37	526
Annual Reports		1	Year	10,000	10,000	183,920
Cap over Reservoir						
	Mow grass	1	Year	495	495	9,104
	rodent control	1	Visit	2,000	2,000	36,784
Engineered Cap Area 2 w/o Reservoir						
	Mow grass	1	Year	512	512	9,417
Engineered Cap outside Area 2						
	Mow grass	1	Year	249	249	4,580
Replace 20% Engineered AC Cover every 7.5 years						
	7.5 years	1	Year	8,699	8,699	56,522
	15 years	1	Year	8,699	8,699	43,668
	22.5 years	1	Year	8,699	8,699	33,737
	30 years	1	Year	8,699	8,699	26,065
Replace 20% Engineered Concrete Coverevery 7.5 years						
	7.5 years	1	Year	5,027	5,027	32,663
	15 years	1	Year	5,027	5,027	25,235
	22.5 years	1	Year	5,027	5,027	19,496
	30 years	1	Year	5,027	5,027	15,063
TOTAL PRESENT WORTH OF ANNUAL O&M						**3,720,000**

TOTAL CAPITAL AND PW OF ANNUAL O&M	**7,830,000**

Notes:

1. Total cost is subject to revision during remedial design.
2. There may be some additional costs associated with temporary or permanent relocation of occupants whose properties will be impacted by the remedial construction, but it cannot be quantified at this time.
3. Interest rate for NPV calcualations (I=3.5% before tax/after inflation) was selected based on the difference between the Consumer Price Index (CPI) and the 30-year long-term bond rate at time of calculation.
4. O&M is expected to be longer than 30 years and information obtained during annual and 5-year reviews will be used to refine long-term O&M cost estimates.
5. Reference is to WDIG Draft Cost Estimate of Jan 2002.

- The revised remedy presented in this Amended ROD will be generally compatible with the city's desire to redevelop the site in the future. To the extent that redevelopment will not hinder or interfere with site remediation, the design for the remedy will be prepared so as not to preclude appropriate redevelopment of the site for certain industrial uses. Implementation will provide for reviews by the City of Santa Fe Springs during the remedial design process. In addition, to the maximum extent practicable, remedial design by the WDIG will seek to accommodate redevelopment grading and layout alternatives that are being evaluated by the City as part of its WDI site redevelopment master planning.

M. Statutory Determinations

1. Protection of Human Health and the Environment

The revised remedy selected in this Amended ROD remains protective of human health and the environment through the use of containment systems to reduce the potential for exposure to waste, contaminated soil, and soil gas. This remedy reduces the risks of exposure to contaminated soil by using EPA's presumptive remedy for landfills; the sources of contamination and contaminated soils will be contained by a RCRA-equivalent cap and associated engineered capping systems in areas overlying buried waste. Liquids and gas collection systems will be used to collect, extract, and treat site liquids and subsurface gases to reduce the levels of exposure. In addition, institutional controls will be implemented to protect the integrity of the remedy, control site use and access, restrict groundwater use, and prevent exposure to buried contaminated wastes and soils. Finally, long-term groundwater monitoring will be conducted to ensure the protectiveness of the remedy.

There are no short-term threats from the site that cannot be readily mitigated. Further, no cross media impacts are expected as a result of implementing the remedy.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

The revised remedy will attain and sustain ARARs. ARARs identified for the revised remedy and the action to be taken to attain the requirements are listed in Table 12.

3. Cost-Effectiveness

Cost-effectiveness is determined by evaluation of three balancing criteria: (1) long-term effectiveness and permanence; (2) reduction of toxicity, mobility, or volume through treatment; and (3) short-term effectiveness. Overall effectiveness is then compared to estimated remediation costs to ensure that the revised remedy is cost-effective.

The remedy proposed in this Amended ROD enhances the long-term effectiveness of

the original remedy since it extends the areal limits of the capping systems to contain additional wastes that have been identified since the signature of the original ROD in 1993. This revised remedy also achieves a high level of short-term effectiveness because it minimizes any exposure to wastes during implementation of the remediation. Although this remedy does not employ treatment, mobility of waste is reduced through containment. Because the revised remedy should be highly effective and has a reasonable estimated cost of $7,830,000, the revised remedy is cost-effective.

4. Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable

Although treatment of site wastes was evaluated in the feasibility studies, EPA determined that the alternatives were not practicable. EPA has determined that the remedy described in this Amended ROD represents the maximum extent to which permanent solutions and treatment technologies can be applied in a cost-effective manner for containment of wastes at the WDI site.

5. Preference for Treatment

Containment is EPA's presumptive remedy for landfills. The removal and treatment of all or even a substantial portion of the wastes buried at the WDI site is not technically or economically feasible. In addition, removal and offsite disposal of WDI site wastes and contaminated soils would incur short-term risks. EPA expects that containment, gas collection and removal, liquids removal, and long-term monitoring will be protective of human health and the environment and is implementable. This revised remedy uses containment, monitoring, and institutional controls rather than treatment to address the threats posed by contamination.

6. Five-Year Review

Because this remedy will result in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted at least once every five years after initiation of the remedial action to ensure that the remedy is protective of human health and the environment.

N. Documentation of Significant Changes from the Proposed Plan

The revised remedy remains substantially identical to that presented in the Proposed Plan. Responding to comments from community members, EPA will include mitigation for visual and noise impacts to nearby landowners and tenants. Mitigation will include construction of a direct-line-of-sight barrier along the northern site boundary to reduce adverse visual and noise impacts, control drainage, and control site access. EPA has revised the cost estimate for the revised remedy from $7,542,000 to $7,830,000.

TABLE 12
FEDERAL AND STATE OF CALIFORNIA ARARs FOR AMENDED ROD
WASTE DISPOSAL, INC. SUPERFUND SITE

REQUIREMENT AND CITATION	SCOPE(1)	COMMENT(2)	APPLICABLE MEDIA	ACTION TO BE TAKEN TO ATTAIN REQUIREMENT
CHEMICAL SPECIFIC - WATER QUALITY				
Clean Water Act, 33 USC §1251-1387, and 40 CFR pt. 122, National Pollution Discharge Elimination System, implemented by State Water Resources Control Board Statewide General Permits re Stormwater Discharges, 99-08 (General Construction) and 97-03 (General Industrial)	Establishes the framework for regulations over the control of water pollution and restoration of water resources. Requirements for certain industrial and construction activities to ensure stormwater discharges do not contribute to a violation of surface water quality standards. Includes measures to minimize or eliminate pollutants in stormwater discharges and monitoring to show compliance.	Certain regulations stemming from the Clean Water Act are **Applicable** to water discharges and groundwater treatment remedies. Stormwater requirements are applicable to construction of treatment units, if any.	Landfill cover drainage control; surface water discharge and run-off; construction.	Site grading, construction of impermeable cover, O&M, monitoring.
CHEMICAL Specific - AIR QUALITY				
Clean Air Act, 42 USC §7401, et seq.; National Primary and Secondary Ambient Air Quality Standards (NAAQS), 40 CFR §§50.1-50.11; Ambient Air Quality Standards, 17 CCR, §§70101, 70200	Establish Ambient Air Quality Standards for ambient air to protect public health and welfare. Identifies standards for six pollutants.	**Applicable** to emissions, including particulate matter, NO_X and CO emissions, from landfill gas treatment unit depending on emission rates.	Soil gas and landfill gas.	Landfill gas emissions control/treatment; emissions controls during cover construction.
Clean Air Act, 42 USC §7401, et seq.; National Emission Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR Part 61; SCAQMD Regulation X (adopting federal standards)	Establishes emission standards for certain particularly hazardous air pollutants.	**Relevant and Appropriate** to landfill gas treatment and soil vapor extraction emissions depending on emission rates.	Soil gas.	Emissions controls on landfill gas treatment unit.
Clean Air Act, 42 USC §7401, et seq.; New Source Performance Standards (NSPSs), 40 CFR Part 60; SCAQMD Regulation IX (adopting federal standards)	Establishes standards for new stationary sources of air emissions to ensure that they are designed, equipped, operated, and maintained to reduce emissions to a minimum. The emission control technology on which the NSPSs are based is the best-demonstrated technology.	**Relevant and Appropriate** to soil vapor extraction units and the landfill gas treatment units depending on emission rates.	Landfill and soil gas.	Verification that emissions quantities do not trigger levels requiring new source performance review. Air emission equipment will be necessary if exceedances are predicted.
Air Resources Act, Cal. H&S Code, §39000, et seq.; California State Implementation Plan (SIP)	Regulates both nonvehicular and vehicular sources of air pollutants. The SIP describes how the air quality programs of the state will be implemented. The South Coast Air Quality Management District (SCAQMD) is the Air Pollution Control District governing the site.	**Applicable** to landfill gas treatment and soil vapor extraction air discharges. Remedial actions should comply with relevant substantive requirements of the SIP.	Soil, wastes, soil gas, landfill gas.	Addressed through meeting substantive requirements of SCAQMD for emissions discharges from landfill gas collection system or SVE units.

TABLE 12
(Continued)

REQUIREMENT AND CITATION	SCOPE(1)	COMMENT(2)	APPLICABLE MEDIA	ACTION TO BE TAKEN TO ATTAIN REQUIREMENT
CHEMICAL SPECIFIC - WASTE DELINEATION AND MANAGEMENT				
Toxic Substances Control Act, 15 U.S.C. §§2601-2692; 40 CFR §§761.50-761.79	Establishes means for storage and disposal of material contaminated with polychlorinated biphenyls (PCBs) of concentrations of 50 parts per million or greater.	**Applicable** to the storage and disposal of liquid, wastes and soils containing PCBs at concentrations greater than 50 ppm.	Liquids, wastes, soils.	Addressed through chemical characterization of liquids, wastes, and soils prior to disposal and treatment, and through their disposal and treatment.
Resource Conservation and Recovery Act, Public Law No. 94-580, 90 Stat. 2795, 42 U.S.C. §6901, et seq.; Hazardous Waste Control Act, Div. 20, Ch. 6.5, §25100, et seq., Criteria for Identifying Hazardous Wastes, 22 CCR, §§66261.1-66261.126	Establishes criteria and methods for characterizing hazardous wastes.	**Applicable** to the characterization of contaminated soils, wastes, and liquids.	Soil, liquids, liquids treatment residue, waste, soil gas treatment residue.	Characterization of wastes, soils, and liquids.
CHEMICAL SPECIFIC - LANDFILL GASES				
Gas Monitoring and Control During Closure, 27 CCR §20921	Requires control of landfill emissions as follows: a. Methane concentration must not exceed 1.25 percent by volume in air in onsite structures. b. Methane concentration must not exceed 5 percent by volume in air at property boundary or alternate boundary.	**Relevant and Appropriate** as standards for control of methane.	Soil gas.	Through monitoring and application of landfill gas control measures.
LOCATION SPECIFIC - ENDANGERED SPECIES AND MIGRATORY BIRDS				
Migratory Bird Treaty Act, 16 U.S.C. §703-712.	Migratory Birds must be protected from poisoning at hazardous waste sites.	**Applicable** to migratory birds. Certain bird species, including doves, have been observed at the Site.	Soil, landfill cover, construction.	Construction of remedy and remedy must not expose migratory birds to hazardous materials.
Endangered Species Act, 16 USC §§1531-1534; Protection of Endangered and Threatened Species, 50 CFR parts 200 and 402; 40 CFR §6.302(h); California Endangered Species Act, California Fish and Game Code §2050-2098	Imposes limits on agency action that may jeopardize endangered or threatened species or adversely modifies their habitat. Requires consultation with the Department of Fish and Wildlife or California Department of Fish and Game if listed species or habitat may be affected. Requires consideration of mitigation measures.	**Applicable** if endangered or threatened species or their habitat are present at the Site. At this time, it appears that no endangered or threatened species or their habitat are present. Habitat is unlikely to be created during construction of the remedy.	Soil, landfill cover, construction.	Construction; confirm absence of endangered species with state and federal resource management agencies; Consultation with California Resource Management agency to confirm absence of endangered species.
LOCATION SPECIFIC - LAND USE				
Archaeological and Historic Preservation Act, 16 USC §§469, et seq.; 36 CFR Part 65	Requires action to recover and preserve artifacts if alteration of terrain may threaten significant scientific, prehistoric, historic, or archaeological data.	**Applicable** if action is taken in area which may cause irreparable harm, loss or significant destruction of artifacts. These requirements must be considered if artifacts are discovered or appear likely to be discovered during any excavation or drilling.	Soils, landfill cover	If artifacts are discovered during excavation and drilling, substantive requirements must be complied with.
Postclosure Land Use, 27 CCR §21190	Provides postclosure design and construction requirements for buildings on site and within 1,000 feet of waste holding area.	**Relevant and Appropriate** for redevelopment and reuse.	Landfill cover, wastes, gases.	Through design of cover and control systems, future land use, and maintenance and enforcement of institutional and engineering controls.

TABLE 12
(Continued)

REQUIREMENT AND CITATION	SCOPE(1)	COMMENT(2)	APPLICABLE MEDIA	ACTION TO BE TAKEN TO ATTAIN REQUIREMENT
ACTION SPECIFIC - WASTE MANAGEMENT				
Use and Management of Containers, 22 CCR 66264.170-66264.178	Establishes requirements for handling hazardous waste containers stored or transferred by owners or operators of hazardous waste facility.	**Relevant and Appropriate** to solids and liquids collected and contained on site prior to offsite transport and disposal.	Soil, wastes, liquids, soil gas treatment residue.	Through design, construction and operation of landfill containment system and management of liquids and other wastes on site.
Standards Applicable to Generators of Hazardous Waste, 22 CCR, §§66262.10-66262.89	Establishes requirements for generators of hazardous waste, including requirements for waste determination, packaging, labeling, accumulation, and documentation.	**Applicable** to generation of hazardous waste, including soils excavation and liquids extraction, and to landfill operations and maintenance.	Soil, liquids, waste.	Addressed through management and documentation of all hazardous wastes and materials containing hazardous wastes collected, treated, and disposed of as part of the landfill closure action.
Transportable and Fixed Treatment Unit, 22 CCR, §67450.3	Includes substantive requirements for management of, including discharge of effluent or emissions, transportable and fixed treatment SVE units.	**Applicable** to landfill gas treatment unit and portable soilvapor extraction treatment units.	Soil gas.	Addressed through meeting substantive requirements for air emission.
ACTION SPECIFIC - LANDFILL CLOSURE				
RCRA Closure and Postclosure for Landfill closures, 22 CCR §66264.111-66264.120	Establishes closure requirements for landfills, surface impoundments, and waste piles.	**Relevant and Appropriate** to the closure of landfill with wastes left in place.	Soil, wastes, liquids.	Through design and construction of landfill containment system.
Corrective Action Waste Management Units, 22 CCR §§66264.552, 66264.553	Establishes that consolidation and placement into a corrective action management unit of remediation wastes generated as part of a corrective action does not constitute placement or land disposal of hazardous waste. Prohibits creation of an unacceptable risk to humans and the environment resulting from exposure. Establishes closure and other requirements. Establishes requirements for temporary tank and container storage.	**Relevant and Appropriate** for the excavation and consolidation of outlying wastes into the central portion of the site to reduce area affected by wastes. The final cover and control systems containing consolidated wastes must meet the landfill closure ARARs.	Wastes, soils. Container requirements relate to extracted liquids and liquid and soil gas treatment residue.	Addressed through design and construction of remedy, including management and consolidation of wastes and soils, and cap construction. Extracted liquids and liquid and soil gas treatment residue must meet container requirements.
Solid Waste Management Act of 1972, 27 CCR, §20919, Gas Control	Requires monitoring and gas control when landfill decomposition gases may present a hazard or nuisance.	**Relevant and Appropriate** to monitoring and applicable control measures for methane and hazardous gas generated at the site.	Soil gas.	Through site-wide monitoring program and implementation of any necessary gas control measures.
Gas Monitoring and Control during Closure and Postclosure, 27 CCR, §20921,	Requires control of trace gases to prevent adverse acute and chronic exposure to toxic and/or carcinogenic compounds. Requires closure and postclosure activities to continue for 30 years or until authorized to discontinue. Requires modification of systems to reflect changing land uses. Postclosure land use must not interfere with gas monitoring and control system function.	**Relevant and Appropriate** to hazardous disposal sites that did not commence complete closure by August 18, 1989.	Soil Gas.	Through continuation of site-wide monitoring program and implementation of necessary gas control measures.

TABLE 12
(Continued)

REQUIREMENT AND CITATION	SCOPE(1)	COMMENT(2)	APPLICABLE MEDIA	ACTION TO BE TAKEN TO ATTAIN REQUIREMENT
Monitoring during Closure and Postclosure, 27 CCR §20923	Requires landfill gas monitoring system to ensure requirements of section 20921 are met. Requires monitoring system to be designed to detect gas migrating beyond landfill property boundary and into onsite structures, and to account for: • Local soil and rock conditions • Hydrogeological conditions. • Locations of buildings, structures, and waste area • Adjacent land use and inhabitable structures within 1,000 feet of disposal site property boundary. • Man-made pathways • Nature, age and gas generation potential of waste.	**Relevant and Appropriate** to the design and maintenance of the landfill gas monitoring system	Soil gas.	Through application of these requirements into the monitoring program.
Perimeter Monitoring during Closure and Postclosure, 27 CCR §20925	Requires landfill gas monitoring network around waste deposit perimeter and disposal site boundary, unless certain conditions are met. Specifies location, spacing, depth, and construction of soil gas monitoring wells, including: • Location around perimeter • Spacing not to exceed 1,000 ft • Probe at 5 to 10 ft • Probe at mid-depth of waste • Probe at waste depth • Construction as specified.	**Relevant and Appropriate** to monitoring of soil gas.	Soil gas.	Through design and implementation of soil gas monitoring system.
Structure Monitoring during Closure and Postclosure, 27 CCR §20931	Requires monitoring inside buildings and of onsite structures such as vaults where gases can build up, both adjacent to and on top of waste deposit area. Requires that structures on top of waste be monitored continually.	**Relevant and Appropriate** to monitoring of soil gas adjacent to and within buildings.	Soil gas; indoor air.	Through design and implementation of indoor and near-building soil gas monitoring.
Monitoring Parameters during Closure and Postclosure, 27 CCR §20932	Requires sampling of monitoring probes and onsite structures for methane and for trace gases that may pose acute or chronic exposure risk due to toxic or carcinogenic compounds.	**Relevant and Appropriate** to identification of soil gas and indoor air monitoring parameters, and to the sampling of soil gas and indoor air.	Soil gas; indoor air.	Through design and implementation of indoor and near-building soil gas monitoring.
Monitoring Frequency during Closure and Postclosure, 27 CCR §20933	Requires monitoring quarterly, or more frequently if gas migration is occurring or other factors are met.	**Relevant and Appropriate** to the monitoring frequency for in-building air and soil gas.	Soil gas; indoor air.	Through design and implementation of indoor and near-building soil gas monitoring.

TABLE 12
(Continued)

REQUIREMENT AND CITATION	SCOPE(1)	COMMENT(2)	APPLICABLE MEDIA	ACTION TO BE TAKEN TO ATTAIN REQUIREMENT
Landfill Gas Control, 27 CCR §20937	When gas monitoring results show methane is exceeding the levels established in Section 20921 (1.25 percent volume air within onsite structures or 5 percent volume air at facility or alternate boundary), requires taking of all steps necessary to protect public health, safety, and the environment. Also requires the design and construction of a gas control system to: a. Prevent methane accumulation in onsite structures. b. Reduce methane at property boundary to below compliance levels. c. Reduce trace gases. d. Collect and treat landfill gas condensate. Requires a system for monitoring and adjustment to assure optimum operating efficiency.	**Relevant and Appropriate** to design and operation of landfill gas control system.	Soil gas, indoor air.	Through design, construction, and operation of gas control system addressing these requirements.
Dust Control for Landfill and Disposal Sites, 27 CCR §20800	Requires the operator to take adequate measures to minimize the creation of dust.	**Relevant and Appropriate** for the construction and maintenance of the landfill cover.	Soil, wastes.	Addressed through dust control measures during construction and maintenance of cover.
Drainage and Erosion Control, 27 CCR §21150	Requires drainage and erosion control systems to prevent public contact with waste and to ensure integrity of land use and monitoring and control systems.	**Applicable** for landfill postclosure design and maintenance.	Soil, surface water, liquids control, cover.	Addressed through design and postclosure maintenance of cover and drainage systems.
Grading of Fill Surface at Landfill and Disposal Sites, 27 CCR §20650	Requires grading of disposal area covered surfaces to promote lateral run-off of precipitation and to prevent ponding. Requires grades to be established with sufficient slope to account for future settlement.	**Relevant and Appropriate** to landfill cover maintenance.	Soil, surface water, liquids control	Addressed through design and postclosure maintenance of cover and drainage systems.
Security at Closed Sites, 27 CCR §21135	Requires site security, including signs and restriction of access to closed landfill sites to protect public health and safety.	Certain parts of the regulation are potentially **Relevant and Appropriate** to operations and maintenance of closed landfill, depending on the postclosure land use.	Soil, waste.	Addressed through implementation of security measures during postclosure period, depending on postclosure land use.
Final Cover Standards, 27 CCR §21140	Requires final cover to protect human health and safety by controlling landfill gas migration and other factors. Requires final cover to be compatible with postclosure land use. Cover must meet requirements of 27 CCR §21090 (addressed below); alternative cover must comply with 40 CFR §258.6(b).	**Applicable** for design and construction of the landfill cover and the management of landfill gas.	Soil, waste, soil gas.	Addressed by incorporation of standards into design of cover and gas management system and adherence to standards during construction and maintenance.

TABLE 12
(Continued)

REQUIREMENT AND CITATION	SCOPE(1)	COMMENT(2)	APPLICABLE MEDIA	ACTION TO BE TAKEN TO ATTAIN REQUIREMENT
Postclosure Land Use, 27 CCR §21190	Requires postclosure land use to protect the cover and gas monitoring systems and prevent public contact with the wastes, gas, and leachate. Addresses design of postclosure land uses, including onsite construction, and requires all such construction to maintain integrity of cover and control system. Establishes additional requirements for construction.	**Relevant and Appropriate** to postclosure land use and to design, construction, and maintenance of cover.	Wastes, leachate, landfill gas, cover systems.	Through incorporation of these requirements into the design, construction, and maintenance of the structures proposed as part of postclosure land uses.
Final Grade, 27 CCR §21142	Provides requirements regarding the final grades for covered landfills.	**Applicable** to design and maintenance of the landfill cover.	Soil, waste, cover.	Addressed through a design that incorporates the grading criteria and construction of the cover to meet the design criteria.
Slope Stability (Final Site Face), 27 CCR §21145	Requires design of the slope stability of the final site face to provide for the integrity of the cover under both static and dynamic conditions.	**Applicable** to design, construction, and maintenance of the final landfill cover.	Soil, waste, cover.	Addressed through design and construction of cover to meet criteria.
Landfill Gas Control and Leachate Contact Prevention, 27 CCR §21160	Requires implementation and maintenance of landfill gas control and leachate contact prevention system.	**Applicable** to design, construction, and maintenance of gas control and cover.	Gas, liquids, cover.	Addressed through design, construction, and implementation of cover and gas control system.
Leachate Collection and Removal Systems, 27 CCR §20340	Requires leachate collection and removal system; design must ensure that there is no buildup of hydraulic head on liner, and that the fluid in the collection sump be kept at the minimum needed to ensure efficient pump operations.	**Relevant and Appropriate** to design, construction, and operation of leachate removal system and cover.	Liquids, cover.	Addressed through design, construction, and implementation of cover and leachate collection system.
Precipitation and Drainage Controls, 23 CCR §2546	Requires that infiltration controls for final closure, including drainage controls, final cover, and other remedial containment structures over wastes associated with the reservoir area, be designed and constructed to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout and overtopping, and control run-off and run-on under precipitation conditions associated with the probable maximum precipitation (PMP). For purposes of this Amended ROD, the final cap and other remedial structures necessary for containment of reservoir wastes are considered Class I facilities.	**Relevant and Appropriate** to design, construction, and maintenance of final landfill cap and associated structures for containment of site reservoir wastes.	Soil, waste, surface water quality.	Addressed through design and construction of cover to meet criteria.
Precipitation and Drainage Controls, 27 CCR §20365	Requires that infiltration controls for final closure, including drainage controls, final cover, and other remedial containment structures over wastes outside of the reservoir area, be designed and constructed to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout and overtopping, and control run-off and run-on under precipitation conditions associated with the100-year 24-hour storm event. For purposes of this Amended ROD, the final cap and other remedial structures necessary for containment wastes outside of the reservoir area are considered Class III facilities.	**Relevant and Appropriate** to design, construction, and maintenance of the final landfill cap and associated structures for containment of wastes in areas outside of the reservoir.	Soil, waste, surface water quality.	Addressed through design and construction of cover to meet criteria.

TABLE 12
(Continued)

REQUIREMENT AND CITATION	SCOPE(1)	COMMENT(2)	APPLICABLE MEDIA	ACTION TO BE TAKEN TO ATTAIN REQUIREMENT
General Criteria for Waste Management Units and Containment Structures, 27 CCR §§20310(d), 20320, 20360	Establishes requirements for containment structures, including materials, testing, and hydraulic conductivity. Requires existing landfills to be fitted with subsurface barriers, as needed and feasible. Establishes standards for construction of any subsurface barriers, including grout curtains and cutoff walls.	**Relevant and Appropriate** to leachate, run-off, and gas control measures.	Wastes, soil, leachate/liquids and run-off.	Addressed through construction of barriers, if needed and feasible.
Vadose Zone Monitoring, 27 CCR §20415(d)	Requires vadose zone monitoring for waste constituents for early detection of releases from a landfill.	**Relevant and Appropriate** to postclosure monitoring of closed landfill.	Wastes and leachate (liquids).	Addressed through implementation of postclosure monitoring program for vadose zone liquids.
Postclosure Care and Use of Property, 27 CCR §21180	Establishes requirements for post-closure maintenance to ensure integrity of final cover and environmental control systems. Requires monitoring and establishes a post-closure care period necessary to protect human health and the environment.	**Applicable** to post closure use of the closed landfill and maintenance of control systems.	Wastes and soil gas.	Addressed through development of and adherence to, a post closure plan that addresses compatible post closure uses, and through operation and maintenance of cover and control systems.
Closure and Postclosure Care, 22 CCR §66264.310	Establishes requirements for design, construction, and maintenance of cover, maintenance and monitoring programs, leachate collection and removal, ground water monitoring, and leak detection, gas control and treatment.	**Relevant and Appropriate** to design, construction, and O&M of landfill containment systems.	Waste, leachate (liquids), and soil gas.	Addressed through design, construction, and O&M of control systems.
Seismic Design Standards, 22 CCR §66264.25(b)	Requires cover and cover systems and all containment and control features remaining after closure to withstand the maximum credible earthquake without decreasing environmental and public health protection.	**Relevant and Appropriate** to design of cover and cover systems.	Wastes, cover, cover systems.	Through design, construction, and maintenance of cover.
Construction Quality Assurance, 22 CCR §66264.19	Establishes requirements for a written construction quality assurance program that is developed and implemented under the direction a CQA officer who is a California state registered professional Civil engineer.	**Relevant and Appropriate** to construction of the remedy for the site.	Cover, cover systems, and other remedial systems.	Addressed through design and construction of remedial systems.
Allowance for Engineered Alternatives to Construction or Prescriptive Standards, 27 CCR §20080(b)(c)	Allows flexibility to implement other equally - protective site-specific alternatives. Alternatives shall demonstrate that: (1) the construction or prescriptive standard is not feasible according to certain criteria, and (2) there is a specific engineered alternative that is consistent with performance goals and affords equivalent protection against water quality impairment.	**Relevant and Appropriate** to design, construction, and O&M of landfill containment systems.	Cover, cover systems, and other remedial systems.	Addressed through design, construction, and O&M of control systems.
Closure and Postclosure Maintenance requirements for Disposal Site and Landfills 27 CCR §21090	Establishes requirements for final cover, leak detection, cover repair, hydraulic conductivity, leachate and gas control, leachate removal, ponding prevention, drainage and run-off control, cover surveys, grading; establishes postclosure duties, including monitoring of groundwater and surface water.	**Applicable** to design of landfill cover and control systems, and to O&M.	Wastes, liquids, soil gas, groundwater.	Through design of cover, control, and O&M addressing these items.

TABLE 12
(Continued)

REQUIREMENT AND CITATION	SCOPE(1)	COMMENT(2)	APPLICABLE MEDIA	ACTION TO BE TAKEN TO ATTAIN REQUIREMENT
ACTION SPECIFIC - WATER QUALITY				
Water Quality Monitoring Requirements for Permitted Facilities, 22 CCR, §§66264.95, 66264.97, 66264.98, 66264.99	Establishes requirements, including point-of-compliance boundary, for groundwater monitoring for landfills, surface impoundments, waste piles, and land treatment units to attain compliance with water quality protection standards.	**Relevant and Appropriate** to the groundwater monitoring effort for wastes left that in place or derived from waste in place.	Wastes, groundwater.	Addressed through postclosure groundwater monitoring (sampling and analysis) program, including identification of points of compliance, monitoring period, monitoring requirements, detection evaluation.
Groundwater Monitoring, 27 CCR §§20405, 20415-20430	Establishes general requirements for water quality monitoring system, including background monitoring, for groundwater, surface water, and vadose zone.	**Relevant and Appropriate** to postclosure monitoring of groundwater and vadose zone.	Groundwater.	Addressed through development and implementation of a groundwater and vadose zone monitoring program.
Porter-Cologne Water Quality Control Act, Cal. Water Code §§13000, 13140, 13240; State Water Resources Control Board Resolution No. 88-63, "Sources of Drinking Water Policy"; Los Angeles RWQCB Resolution 89-03 (adopting Resolution 88-63 into Basin Plan)	Establishes that virtually all groundwater and surface waters are considered suitable, or potentially suitable, for municipal or domestic water supply.	**Applicable** to determining beneficial uses for waters affected by waste discharges. Groundwater at the Site is considered a source of drinking water.	Groundwater.	Addressed through development and implementation of a groundwater and vadose zone monitoring program..
Air Resources Act Health & Safety Code/ Title 17, Div. 26, Part III, §39000, et seq./ South Coast Air Quality Management District Rules				
Visible Emissions, SCAQMD Rule 401	Prohibits discharge of air contaminants based on "darkness in shade," measured by the Ringleman chart.	**Applicable** to drilling, excavation, cap, treatment systems, construction, and exhaust from construction equipment and asphalt equipment.	Soils, wastes, cap, and construction equipment emissions.	Addressed through employment of dust control measures during drilling, excavation, earth moving, and placement of final soil cover, and through control of construction equipment exhaust and treatment systems emissions.
ACTION SPECIFIC - AIR QUALITY				
Nuisance, SCAQMD Rule 402	Prohibits discharge of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance, which endanger comfort, repose, health or safety, or which cause or may cause injury or damage to business or property.	**Applicable** to drilling, excavation, cap, treatment systems, construction, and exhaust from construction equipment and asphalt equipment.	Soils, wastes, cap, and construction equipment emissions.	Addressed through employment of dust control measures during drilling, excavation, earth moving, and placement of final soil cover, and through control of construction equipment exhaust and treatment systems emissions.

TABLE 12
(Continued)

REQUIREMENT AND CITATION	SCOPE(1)	COMMENT(2)	APPLICABLE MEDIA	ACTION TO BE TAKEN TO ATTAIN REQUIREMENT
Fugitive Dust, SCAQMD Rule 403	Limits onsite activities so that the concentration of fugitive dust at the property line will not be visible. Requires use of best available control measures to minimize fugitive dust emissions.	**Applicable** to drilling, excavation, cap, construction, and exhaust from construction equipment and asphalt equipment.	Soils, wastes, cap, and construction equipment emissions.	Addressed through employment of dust control measures during excavation, earth moving, and placement of final soil cover.
Particulate Matter (Concentration), SCAQMD Rule 404	Prohibits discharge of particulate matter exceeding specified concentrations. Prohibits discharge of gas above concentration limits.	**Applicable** to excavation of soils and wastes, drilling, construction.	Soil, waste, cap.	Addressed through employment of dust control measures during excavation, earth moving, and placement of final soil cover and during drilling and construction.
Solid Particulate Matter, SCAQMD Rule 405	Prohibits discharge of solid particulate matter exceeding specified weights and rates.	**Applicable** to excavation of soils and wastes, drilling, construction.	Soil, waste, cap.	If necessary, addressed through employment of control measures during excavation, earth moving, and placement of final soil cover and during drilling and construction.
Liquid and Gaseous Air Contaminants, SCAQMD Rule 407	Limits carbon monoxide emissions from equipment to 2,000 parts per million (ppm) by volume and sulfur dioxide emissions from equipment to 500 ppm by volume, both averaged over 15 minutes.	**Applicable** to operation and maintenance of landfill gas treatment system.	Soil gas, treatment equipment.	If necessary, addressed through calculations of emissions quantities and comparison of quantities with standards. Air emissions equipment will be necessary if exceedances are predicted.
Circumvention, SCAQMD Rule 408	Restricts the concealing of air emissions without accomplishing a reduction in total emission of air contamination.	**Applicable** to operations and maintenance of landfill gas treatment unit and other equipment.	Soil gas, equipment.	If necessary, addressed through use of appropriate equipment that minimizes air emissions.
Combustion, SCAQMD Rule 409	Limits discharge of combustion contaminants resulting from fuel burning; does not apply to emissions from internal combustion engines.	**Applicable** to any fuel burning activities other than those from internal combustion engines.	Equipment and treatment systems.	If necessary, addressed through use of appropriate equipment that minimizes air emissions from any fuel burning.
Disposal of Solid and Liquid Waste, SCAQMD Rule 473	Imposes restrictions on emissions from the burning of combustible refuse.	**Applicable** to any burning of combustible refuse.	Treatment systems and equipment.	If necessary, addressed through use of appropriate equipment that minimizes air emissions from any burning of combustible refuse.
Emulsified Asphalt, SCAQMD Regulation 1108.1	Prohibits sale or use of emulsified asphalt exceeding specified limits.	**Applicable** to use of asphalt in the construction and maintenance of the cover.	Asphalt cover.	If necessary, through placement of cover using materials as specified.
Excavation of Landfill Site, SCAQMD Regulation 1150	Requires planning, including mitigation measures, to prevent public nuisance.	Substantive requirements are **Relevant and Appropriate** to any excavation.	Soils, wastes.	If necessary, addressed through planning for and use of appropriate control measures and equipment that minimizes air emissions.

TABLE 12
(Continued)

REQUIREMENT AND CITATION	SCOPE(1)	COMMENT(2)	APPLICABLE MEDIA	ACTION TO BE TAKEN TO ATTAIN REQUIREMENT
VOC Emissions from Decontamination of Soil, SCAQMD Rule 1166.	Imposes requirements for emissions from soils contaminated with VOCs at levels of 50 ppm or greater, which are being remediated or encapsulated. If soils are being treated, requires collection of VOCs or equivalent VOC-contaminated soil measure. Prohibits spreading of VOC-contaminated soil resulting in uncontrolled evaporation of VOCs to the atmosphere.	Substantive requirements are potentially **Applicable** to any excavation of soils and wastes.	Soils and wastes.	If necessary, through control of emissions from excavated soils and wastes.

Abbreviations used in this Table:

CCR = California Code of Regulations
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act, as amended
CFR = Code of Federal Regulations
EPA = United States Environmental Protection Agency
NCP = National Contingency Plan
NSPSs = New Source Performance Standards
RCRA = Resource Conservation and Recovery Act, as amended
RWQCB = Regional Water Quality Control Board
SCAQMD = South Coast Air Quality Management District
USC = United States Code
PCB = Polychlorinated Biphenyls
PRG = Preliminary Remediation Goal
ppm = parts per million

(1) For concentration limits stated in Chapter 3.0 of the May 2001 Supplemental Feasibility Study.

(2) Only the substantive, and not the administrative, requirements of the identified laws and regulations are Applicable or Relevant and Appropriate.

Part III - RESPONSIVENESS SUMMARY
Waste Disposal, Inc. Superfund Site
Amended Record of Decision

Overview

EPA's revised remedy for the Waste Disposal, Inc. (WDI) Superfund site involves construction of containment systems designed to minimize the potential for exposure to site-related contaminants. Because the WDI site contains significant buried waste, EPA is following its policy for using containment as the presumptive remedy for landfills. Accordingly, EPA will require installation of capping systems, environmental control systems for soil gas and liquids, and monitoring systems to contain waste in place and ensure long-term protectiveness of human health and the environment.

The remedy involves the construction of a variety of engineered capping systems, gas collection and control systems, liquids collection systems, and groundwater monitoring systems. The capping systems include a RCRA-equivalent layered soil and membrane cap over the reservoir area in the center of the site, and engineered capping systems (a graded soil cap, graded soil and asphalt cap, and graded soil and concrete cap) over various portions of the site outside the reservoir area. Engineering controls, such as sealing concrete floor slabs and installing ventilation systems and vapor barriers to prevent the intrusion of landfill gas into buildings, will be installed at existing structures. In addition, demolition and permanent and/or temporary relocation of some existing structures and facilities may be conducted as necessary for structures where it is not technically feasible to install engineering controls. The remedy also includes implementation of institutional controls (legal and administrative restrictions) to control future land use and protect the integrity of the remedy. Long term operations, maintenance and performance monitoring will be conducted to ensure that the remedy is functioning as intended.

The revised remedy differs from the original remedy that was selected in the 1993 Record of Decision (ROD) in that the revised capping systems cover a significantly greater area than was included in the original remedy. The revised remedy does not include extensive excavation and reconsolidation of waste and contaminated soil as was included in the original remedy. The revised remedy also includes long term soil gas and in-business air monitoring to evaluate the effectiveness of the remedy. Groundwater monitoring -- not included in the original 1993 ROD -- has also been added to the revised remedy to monitor remedy effectiveness and to detect potential changes in site hydrologic conditions or impacts to groundwater.

EPA received comments on the Proposed Plan for the Waste Disposal, Inc. remedy at the public hearing on Thursday, June 14, 2001, at South Whittier Intermediate School. Appendix 1 contains a copy of the transcript for this public hearing. EPA also received several comments through written correspondence and e-mail (see Appendix 2). This section summarizes those comments and presents EPA's responses.

Summary of Alternatives

EPA evaluated five alternatives in detail for addressing the contamination at the Waste Disposal, Inc. site, including a no-action alternative. These alternatives were described in detail in the Supplemental Feasibility Study (SFS) that was completed in May 2001 and the Proposed Plan that was presented in June 2001. The alternatives are also described in this Amended Record of Decision. With the exception of the No Further Action alternative, all the alternatives propose building a RCRA-equivalent multi-layer landfill cap over the central waste reservoir (in Area 2) and placing engineered capping systems, including graded soil, asphalt, and/or concrete, over the buried waste outside of the reservoir (in Area 2). All of these alternatives also include:

- extraction of leachate and free liquids from beneath the cap in the reservoir area;
- extraction and treatment of soil vapor from beneath the capping systems;
- installation of engineering controls to prevent entry of soil vapor into buildings;
- groundwater monitoring to detect any contamination from the site;
- institutional controls to prevent future land uses or activities that might compromise the remedy and to ensure access for ongoing operations and maintenance (O&M);
- long term O&M.

The alternatives differ primarily in the amount of waste outside of the central reservoir (in Area 2) that would be excavated and consolidated within the reservoir before capping. Alternatives 2 and 3 rely upon containment with no significant excavation or reconsolidation of waste. Alternatives 4 and 5 include partial and extensive excavation and reconsolidation of waste, respectively. While Alternatives 2 through 5 anticipate and would allow for future site redevelopment consistent with the remedy and use restrictions, Alternative 3 explicitly included redevelopment with remediation as a single combined process that involved removing most or all buildings on the site prior to capping as an integral part of the City of Santa Fe Springs' redevelopment of the site. However, Alternative 3 would involve significant delays in the implementation of the environmental remedy to allow for the redevelopment planning process.

EPA's preferred alternative (Alternative 2), includes the broadest application of capping and the least excavation of wastes of the four active proposals. This alternative prevents contaminants from the buried waste from coming into contact with people through soil, air, or groundwater over the long term. At the same time, it minimizes the

risk to cleanup workers and nearby occupants from waste disturbed and transported during cleanup. The revised remedy also anticipates future land uses for the site. The City of Santa Fe Springs is interested in the future redevelopment of the site for industrial land uses. The revised remedy will be designed so as not to preclude future redevelopment by others once development plans have been finalized. Although the selected alternative does not directly include site redevelopment, it is generally compatible with the City of Santa Fe Springs' goals for future redevelopment while accounting for the uncertain development timetable.

Support Agency Comments

No comments were received.

History of Community Involvement at WDI

EPA placed the WDI site on the National Priorities List (NPL) of Superfund sites in July 1987. EPA involved the community throughout its subsequent investigation process, which culminated in the original Record of Decision in 1993. EPA received additional input from community members, including the Protect Our Neighborhood Committee (PONC) during the design process that began in 1994. The community's input has been useful to EPA in guiding investigation and design processes. EPA has also provided support to PONC through the Technical Outreach Services for Communities (TOSC) program to enhance communications with the community and to provide the community with additional technical support services.

In conjunction with input from the community, EPA and potentially responsible parties undertook additional investigations at the Site after 1994, which ultimately revealed the need for this revised remedy. The revised remedy will more effectively address buried wastes, soil gas, liquids, and groundwater at the Site. The results of the additional investigations and the alternatives considered by EPA for the revised remedy are set out in the Administrative Record for the Site and in the Supplemental Feasibility Study (SFS) and the Proposed Plan (both of which are included in the Administrative Record). During the entire process, EPA has issued fact sheets to the community and conducted public meetings with local residents, business owners, and tenants, and the nearby high school staff to both inform the community of new developments and to solicit community input. EPA held a formal public comment period on the Proposed Plan for the revised remedy on June 1, 2001. EPA received one e-mail and two comment letters during this comment period. EPA also held a public hearing on June 14, 2001 in Santa Fe Springs to present the Proposed Plan and to receive comments from the community and any interested parties.

Summary of Comments Received and Agency Responses

Comments from the June 14 public hearing

General comments. Two community members made generally supportive comments regarding EPA staff.

EPA Response: EPA thanks the community for their interest and active participation in the investigation of the WDI site and looks forward to working with you as we implement the cleanup.

Editorial comments on the Proposed Plan fact sheet. One person commented that the fact sheet referred to a "Figure 4," which was not in the fact sheet.

EPA Response: EPA acknowledges that the reference should have been to "Figure 2" and apologizes for the oversight. The commentor did not indicate any difficulty in understanding the Proposed Plan, and EPA believes that the error does not materially affect understanding of the Proposed Plan.

Duration of Waste Dumping. One participant commented that the Proposed Plan fact sheet did not mention that dumping on the site continued after the county permit expired in 1964.

EPA Response: Although the Proposed Plan does not mention it, the Amended Record of Decision (p. II-5) recognizes that "most, but not all, disposal activities appeared to have ceased" by 1964. This Amended ROD further states that some disposal activities may have continued until 1966 as the site was being graded.

Redevelopment. Some participants expressed interest in the City of Santa Fe Springs' redevelopment effort and its relationship to the cleanup.

EPA Response: As previously stated, the City of Santa Fe Springs has expressed an interest in redeveloping the site for certain industrial use at some point in the future. Specific plans for redevelopment have not been finalized, however. The City applied for and received a grant from EPA under the Superfund Redevelopment Initiative (SRI) to assist in the preparation of redevelopment plans for the WDI site. The grant is being used to fund a public process to evaluate the future land uses for the site. The City is currently developing a specific use plan that will serve as a blueprint for future site redevelopment. The City's redevelopment plan and EPA's environmental remediation plan are the results of two separate processes. However, the two planning processes and related design activities are interrelated. EPA's remedial response action will be implemented as soon as possible according to this Amended Record of Decision and

supporting decision and design documents. Redevelopment may be undertaken at some point in the future by other parties following completion of the City's master redevelopment plan (specific use plan) and the selection of a developer by the City.

EPA's site remediation plan, as presented in the Amended ROD and subsequent decision and design documents, will place limits on the siting of new buildings and other uses of the land in order to maintain the integrity of the remedy. Residential redevelopment will be prohibited under the institutional controls that are included as part of the revised remedy. The institutional controls will also place restrictions on the types of construction and operational activities that can be conducted on the site once the capping work has been completed. The revised remedy, however, will be designed to accommodate the City's preferred future industrial land use to the maximum extent practicable while ensuring protection of human health and the environment. The City's redevelopment plan will determine the specifics of the ultimate use of the WDI site, including the architecture and aesthetics of the buildings and grounds and the flow of traffic into and out of the site.

Extent and Timing of Building Removal, Cleanup, and Redevelopment. Several owners of smaller parcels on the edges of the site and business owners who are tenants at these properties requested clarification on the extent and timing of the cleanup and possible building removal and on the timing of redevelopment, since it affects their businesses or their tenants' businesses. One business owner inquired about compensation for relocation, and one community resident expressed interest in the fairness of compensation for businesses. One property owner inquired about the effects of the cleanup on transfer of the property.

EPA Response:

As stated, the selected remedy (Alternative 2) involves implementation of a containment remedy intended to prevent exposure to buried waste, contaminated soil, and soil gas. Recognizing the City's desire to redevelop the site, the containment facilities, systems, and operations will be designed to accommodate future redevelopment by other parties to the maximum extent practicable while not compromising EPA's mission of protecting human health and the environment. EPA seeks to implement the remedy as soon as possible, but recognizes that site redevelopment my be undertaken at a future date by other parties.

EPA anticipates that the permanent and/or temporary relocation of some existing structures may be necessary for implementation of the selected remedial action. This could include demolition of some existing structures or facilities to allow for installation of the cap and monitoring systems or for structures where it may be technically infeasible to install appropriate environmental engineering control systems.

The revised remedy includes installation of engineering controls in existing structures that are located over waste or where the potential to exposure is considered to be the greatest. Engineering controls may include ventilation systems, concrete slabs, concrete slab crack sealing, vapor barriers, ventilation trenches along foundation slabs, positive pressure heating, ventilation and air conditioning (HVAC) systems, and environmental monitoring systems. In some of the existing structures, however, it may be technically infeasible to effectively install engineering controls in a manner that would ensure protectiveness of human health and the environment. For those structures where the installation of engineering controls is technically infeasible, demolition of the structures will likely be required. Selection of specific structures that will require demolition will be determined during the remedial design process.

Criteria for determining which structures may require demolition include:

- Structures that are located over waste or contaminated soil
- Structures that might be susceptible to build-up of soil gas emissions
- Structures with concrete foundation slabs that are severely cracked or damaged
- Structures when the design precludes retrofitting to install engineering controls
- Structures with internal equipment that precludes installation of engineering controls
- Structures that would preclude or interfere with construction or O&M of the remedy.

In addition, depending on the conditions of specific structures and the nature of the necessary engineering controls, it may be necessary to allow access for remedial site workers, temporarily shut down business operations, and/or relocate a business to another temporary or permanent location. Final determinations on such structures will be made during the remedial design process. In all situations where a business or structure will be physically impacted by the remedial action, whether temporary or permanent, EPA will try to minimize disruption to operating businesses and provide notice as far in advance as possible of any unavoidable effects on business infrastructure and operations.

As mentioned previously, EPA's selected cleanup strategy and the City's redevelopment program are two separate processes that will be undertaken by different entities. EPA's first priority is to implement an effective remedial action for the WDI site that is protective of human health and the environment. The revised remedy, however, will be designed so as to be compatible with future redevelopment to the maximum extent practicable. Any decisions by the City to demolish or remove buildings at the site for future redevelopment purposes are separate and distinct from the remedial action and are not included in this Amended Recorded of Decision.

The revised remedy also includes implementation of institutional controls on all properties at the site. These include access easements and environmental restrictions

to be recorded for each property, so that they are binding on future owners (see Section L of the Amended Record of Decision). As described in Section L of this Amended ROD, certain activities will be prohibited or restricted subject to approval by EPA, in order to prevent construction or facility operational activities that might interfere with the capping or environmental monitoring and control systems. Exceptions may be made to these restrictions, subject to EPA's prior approval.

Alternative Selection. Several meeting participants requested clarification of the process, timing, and rationale for the final choice of cleanup plan.

EPA Response: The *Waste Disposal, Inc. Amended Record of Decision,* of which this Responsiveness Summary is a part, memorializes EPA's final decision on the cleanup plan for the WDI site. As stated in the Proposed Plan for the site, EPA selected Alternative 2, which caps the waste at the site with minimal excavation and disturbance of the waste. EPA chose this alternative because it isolates the waste over the long-term while minimizing exposure to the waste during the short-term, while the cap and other components are under construction.

EPA's revised selected remedy includes a cap over the reservoir (in Area 2) similar to the cap specified in the original Record of Decision. However, due to additional investigation, EPA now has much more extensive information on the type, amount, and location of all wastes at the site. As a result, this Amended Record of Decision calls for capping a larger area than was included in the original ROD with less excavation and on-site consolidation of waste.

During preparation of the Supplemental Feasibility Study, before EPA developed the Proposed Plan, EPA eliminated alternatives that included excavation of all wastes and disposal at an off-site location. EPA rejected these alternatives because of the prohibitive cost, the significant exposure to workers and nearby residents during the cleanup, and the lack of any off-site disposal location that would have guaranteed better long-term environmental protection than the current location of the wastes. Containment is EPA's presumptive remedy for landfills. EPA's selected remedy specifies that all remedial controls at the site will be monitored for as long as necessary to ensure that on-site workers and neighbors are not exposed to the wastes.

Protectiveness of the Remedy. One meeting participant asked for more specifics on how the preferred remedy would meet the remedial action objectives in the Proposed Plan.

EPA Response: EPA's objectives for the actions specified in the Amended Record of Decision, and the components of the remedy designed to meet those objectives are listed below.

1. **Protect human health and the environment by preventing exposure to buried wastes and contaminated soils.** EPA's selected remedy will place engineered capping systems over buried wastes and contaminated soil. The caps will take the forms of (1) a specially designed multi-layered soil and membrane landfill cap over the most concentrated waste area, and (2) engineered capping systems with layers of pavement, clean soil, or concrete slab foundations over other areas of buried wastes. Environmental systems will be installed to extract liquids and to extract and treat soil gas that may accumulate underground beneath the capping systems. Monitoring systems will be installed to ensure the effective functioning of the capping systems. Restrictions on future uses and activities on the properties at the site will prevent disturbance of the caps. Residential or similar uses of the property will not be permitted.

2. **Protect current and future on-site and off-site receptors from exposure to soil gases.** EPA's selected remedy specifies systems to extract, collect, and remove soil gas from the reservoir area so that it does not escape into the open air, and systems to monitor soil gas at the perimeter of the site and prevent it from migrating off the site. It also specifies engineering controls, such as floor sealants and building venting systems, to prevent gases from collecting inside buildings.

3. **Prevent human exposure, including direct contact, consumption, and other uses, to site liquids exceeding state and federal standards.** EPA's selected remedy includes a system to extract, collect, and safely dispose of liquids percolating through the caps or collecting in the reservoir (in Area 2).

4. **Prevent contribution of site liquids to exceedances of state and federal groundwater standards.** EPA's selected remedy specifies long-term monitoring of groundwater beneath the site to ensure that the site is not contaminating the groundwater. Groundwater monitoring plans will be prepared that detail methods and frequency for the collection and analysis of groundwater.

5. **Prevent exposure to groundwater that exceeds state and federal standards.** In addition to 4 above, institutional controls on the properties at the site will prohibit the construction or use of groundwater production wells and prevent exposure to contaminated groundwater.

Engineering Controls for Soil Gas. The participants expressed some interest in how the "engineering controls" on the buildings to prevent soil gas buildup would work and for what buildings they might not work.

EPA Response: "Engineering controls" is a generic term for any physical modifications or additions to a building for the purpose of minimizing exposure to contaminants. As

the design of the remedy progresses, EPA will examine a variety of options for preventing exposure to soil gas in buildings, including sealing all cracks in the foundations and installing active ventilation systems, either around the perimeter of the building or inside the building, to exhaust and replenish the air. If EPA determines that engineering controls are impracticable at certain buildings, those buildings may need to be removed and replaced with a suitable engineered cover to minimize exposure to soil gas, as discussed previously.

Safety During the Cleanup Process. Several comments requested clarification on the technology used in the process of installing the remedy components to protect the occupants of nearby homes and of the adjacent school from exposure to dust or other contaminated media during the construction of the remedy.

EPA Response: EPA chose Alternative 2 as its selected remedy partly because it minimizes the disturbance of buried waste. Throughout the construction process, workers will be obligated to follow strict health and safety requirements and protocols that address construction safety practices and use of personal protective equipment. Many of these procedures are specified in federal and state regulations, while others will be developed specifically for use on this site. As part of the design process, the designers will be required to prepare a health and safety plan that details procedures to ensure the safety of site workers, site occupants, and nearby residents.

During any activity that disturbs the soil cover and possibly the buried waste at the site, EPA will require the construction contractor to follow procedures and use techniques that minimize airborne dust. These techniques may include spraying the site with water or foam during the work, or tenting the site and actively capturing and removing dust from the air before exhausting it, although this is unlikely to be necessary. Workers actively engaged in construction that disturbs the soil or buried waste on the site will wear protective clothing and breathe filtered or bottled air if necessary. These precautions are necessary only for those who work long hours in direct contact with contamination. They will not be necessary for people beyond the boundaries of the site. EPA will also monitor the air at the edges of the site to ensure that no airborne contaminants escape the boundaries.

Long-term Monitoring. Several comments requested clarification on which contaminants in soil would be monitored and on how long monitoring of soil gas, groundwater, and institutional controls would continue, and who would be responsible for the monitoring.

EPA Response:

The revised remedy includes numerous requirements for long term operations,

maintenance, and monitoring for the WDI site. Operations and maintenance will include routine inspection, maintenance, and repair activities designed to ensure the effective long term operation of the capping systems and environmental monitoring and control systems. The remedy also includes numerous activities that are designed to monitor the effectiveness of the remedy and to ensure compliance with regulations and performance standards. As part of the design process, monitoring plans will be prepared that detail procedures for the collection and analysis of groundwater, soil gas, and indoor air. The purpose of the monitoring programs is to provide early detection of any indication that the remedy might not be functioning as designed. Monitoring is also intended to detect any changes in site conditions. The monitoring programs will be developed to monitor chemicals of concerns (COCs) that have been specified in the Amended Record of Decision. The specific details of the sampling and analytical procedures will be described in various site monitoring plans, including groundwater monitoring plans, soil vapor monitoring plans, indoor air monitoring plans, and associated quality assurance/quality control plans. These plans also describe the frequency of sample collection and reporting. EPA will provide technical review and oversight for all monitoring activities. In addition, EPA will conduct a review of the continued protectiveness of the remedy every five years, and ensure correction of any deficiencies discovered.

Ongoing communication. Several participants commented that they would like to ensure that EPA records all pertinent site information in writing and that EPA continues to notify them of the results of long-term monitoring, possibly through the internet but preferably through direct written communication.

EPA Response: EPA will maintain communications with the community throughout the cleanup process, including post-construction monitoring. EPA will place monitoring results in the information repositories for the site and on the internet as far as technology and resources allow. EPA will at times notify interested parties when new information is available and provide the information directly as much as practicable.

Cost. One comment requested clarification on what the cost estimates in the Proposed Plan covered.

EPA Response: For comparison purposes, the cost estimates for each alternative include the capital cost of constructing the remedy and operating, maintaining, and monitoring it for 30 years. Operations, maintenance, and monitoring costs would continue after 30 years for as long as those activities are necessary. These cost estimates reflect preliminary costs, and the actual cost of the selected remedy may vary as additional information becomes available during the remedial design process.

Health effects. One commentor inquired about whether any deadly health effects

would be likely from childhood contact with site contaminants.

EPA Response: EPA has no evidence to show that deadly health effects are a likely result of childhood contact with site contaminants at WDI.

Comments from St. Paul High School letter of June 22, 2001

Remuneration. In a letter of June 22, 2001, commenting on the upcoming *Amended Record of Decision*, St. Paul High School requested that the document note its request for remuneration. The school seeks compensation for revenue reportedly lost due to several effects resulting from proximity to the site, including:

- a decline in enrollment resulting from negative publicity on and parents fears of the Superfund site,
- increased costs for rodent and weed control on the school's playing fields, and
- expenses related to not using reclaimed water for irrigation.

EPA Response:

EPA notes the comment and appreciates St. Paul's interest in the Site. EPA is unable to provide remuneration to the school under CERCLA as requested as part of the Amended Record of Decision because such remuneration is not part of the revised remedy for the site and is outside the scope and authority of this Amended ROD.

Line-of-sight barrier. St. Paul's letter also requests that the *Amended Record of Decision* specify as part of the remedy a "barrier which eliminates the possibility of a 'direct line of sight' over the school, fields, and parking lot." (Request repeated in St. Paul's letter of December 20, 2001, to Russell Mechem)

EPA Response: The *Amended Record of Decision* includes this component for the construction of a line-of-sight barrier. The details for the configuration of the barrier will be developed during the design phase for the remedial action. In light of the plans for future redevelopment of the site, the barrier may initially be designed as an interim feature that would be replaced during the later redevelopment process with a barrier that would be aesthetically compatible with the redevelopment.

Comments from Johnson & Tekosky LLP letter of July 2, 2001

Representatives of the owners of parcels and 3 and 24 on the site submitted two comments via letter.

One comment states that soil borings show no waste under parcel 3 and therefore no cap or other remediation is necessary for that part of the site. The other comment states that the data do not show constituents of concern in amounts significant enough to determine that waste materials underlie Parcel 24, and thus capping or other remedial measures for this parcel are not warranted.

EPA Response:

EPA has determined that the installation of engineered capping systems will be necessary for parcels #3 and #24 in the southwestern portion of the site. The Supplemental Feasibility Study and Amended Record of Decision include maps that delineate the boundaries of waste at the site based on the most recent soil and waste characterization activities. The maps can be found as Figure 2.3 of the Supplemental Feasibility Study and Figure 4 of the Amended ROD. As portrayed in these maps, waste underlies Parcel 24 and approximately the northern half of Parcel 3. The commentor appears to have extracted information from two provisional summary documents (Parcel Packages) that contained preliminary information from earlier site investigations and that have been superseded by the Supplemental Feasibility Study and Amended ROD.

The selected remedy addresses the containment of buried waste and contaminated soils in accordance with EPA's policy of using containment as the presumptive remedy for landfills. The presumptive remedy uses the capping of waste and contaminated soil in order to: (1) prevent direct contact with buried waste and contaminated soil; (2) prevent infiltration of rainwater that can mix with waste and eventually percolate downward into groundwater; and (3) prevent exposure to soil gas. The containment system will include liquids extraction and soil gas collection and treatment to supplement the construction of capping systems. Additional technical information on the delineation of waste boundaries and anticipated locations for capping systems can be found in the Supplemental Feasibility Study that is included in the Administrative Record. The exact boundaries of the capping systems will be determined during the remedial design process, but EPA anticipates that the cap boundaries will cover a somewhat larger area than the exact waste boundaries in order to provide effective containment of waste, liquids, and soil gas and to prevent infiltration of rainwater.

Comments from John Jaeger via e-mail of June 16, 2001

Productive reuse. Mr. Jaeger recommends redevelopment of the WDI site to return the property to productive use.

EPA Response: The City of Santa Fe Springs has designated the site a redevelopment area and is currently conducting a public process under a grant from EPA to determine the best future use of the site. The City is in the process of preparing a specific use plan that will serve as the blueprint for the future redevelopment of the WDI site. EPA's revised remedy does anticipate that redevelopment will occur at some point in the future after site remediation. The remedy will be designed to accommodate future redevelopment to the extent that EPA's goal of protecting human health and the environment is not compromised. However, site remediation and redevelopment will involve separate, though interrelated, processes that will be undertaken by different entities. Under its mission as an environmental regulatory agency, EPA is precluded from taking a lead role in redevelopment activities.

Toxicity and risk. Mr. Jaeger asserts that, once remediated, the site will pose no human health risks.

EPA Response: EPA has selected a remedy that will protect human health and the environment. However, this revised remedy includes restrictions that prohibit the use of the site for residential or similar purposes in order to minimize potential exposure to wastes that remain on the site.

Revised Remedy's Changes to the Proposed Remedy due to Public Comment

In response to comments from community members who were concerned about impacts to nearby landowners, EPA will include mitigation for visual and noise impacts to nearby landowners and tenants. This mitigation will include construction of a physical direct-line-of-sight barrier along the northern boundary of the site to reduce adverse visual and noise impacts, control drainage, and control site access.

WASTE DISPOSAL, INC.

AMENDED RECORD OF DECISION

Appendix 1

Waste Disposal, Inc. Superfund Site
Santa Fe Springs, California 90670

United States Environmental Protection Agency
Region 9 - San Francisco, California

REPORTER'S TRANSCRIPT OF PUBLIC HEARING

PROPOSED PLAN

WASTE DISPOSAL, INC. SUPERFUND SITE

SOUTH WHITTIER INTERMEDIATE SCHOOL

SANTA FE SPRINGS, CALIFORNIA

JUNE 14, 2001

Reported by LorRae D. Nelson, CSR No. 7384

PRS Job No. 3-79184

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14

15

16

17

18

19 REPORTER'S TRANSCRIPT OF PUBLIC HEARING
20 OF PROPOSED PLAN, WASTE DISPOSAL, INC. SUPERFUND
21 SITE, held at South Whittier Intermediate School,
22 Santa Fe Springs, California, on Thursday, June 14,
23 2001, at 7:17 p.m., before LorRae D. Nelson,
24 Certified Shorthand Reporter, in and for the State
25 of California.

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SANTA FE SPRINGS, CALIFORNIA

THURSDAY, JUNE 14, 2001

7:17 P.M.

* * * * *

MR. HODGE: Welcome. Thank you all for coming. I think we are ready to start the proceedings tonight.

19:18:09 This is the public hearing on the proposed plan, current proposed plan for cleaning up the waste disposal incorporated superfund site, so thank you all for your interest in coming out tonight. It's a hot night, and it's great to see you here.

19:18:28 I'm the community involved coordinator for this site for the U.S. Environmental Protection Agency. My role here tonight is to, basically, keep the meeting rolling and to facilitate the meeting.

We will give a short presentation tonight,

19:18:49 if you will bear with us, but our primary purpose here tonight is to take your comments on the plan that we are proposing for cleaning up this site.

So, again, let me mention that there is a sign-up sheet for people that know they want to

19:19:08 comment. If you wouldn't mind signing up on that

19:19:12 sheet, that would help us organize the comments later. If no one wants to sign up in advance, during the public hearing part of the meeting tonight, if people would sign up and speak in any order that you wish. And if you like, during that part of the presentation of the meeting tonight, we can take questions instead of comments, if you think that would be more helpful in making your comments to us. So we are flexible.

19:19:54 I will mention we have copies of the proposed plan on the table. If you didn't receive one in the mail and you would like to take a look at it, they are over here. We also have copies of the slides that we will be using tonight for your presentation, if you would like to follow along on paper.

If you didn't sign in the multiple sign-in sheets, we would really like to have your name and other contact information on the sign-in sheet. For one thing, it will help our reporter to make sure that she has your names correct.

So, this is a public hearing and it will be recorded and we will produce a verbatim transcript of the hearing just so you know that's part of the proceedings here tonight.

19:20:52 As far as the agenda goes, this is the agenda for tonight that we have in mind, anyway. I'll introduce some of the people here tonight just briefly, and I'll do a very short, maybe five
19:21:29 minutes of presentation on the superfund process, in general. Some of you may have heard this information before, but I just want to give you some context for what we are proposing to do with this site and where we are with the process.

19:21:45 Then I'll turn it over to Mark to give you a little bit more of a detailed history of this site and what has gone on at the waste disposal site. And then Mark will describe the plans that we looked at before we came up with the plan that we proposed.
19:22:07 We will try to keep it short. Like I said, the main purpose is to take comments from you.

My name, as I mentioned earlier, I'm Don Hodge, and Mark Filippini is the remedial project manager for the site and he will be doing most of
19:22:33 the talking here tonight.

Also in the audience we have representatives from the State and County and the City of Santa Fe Springs agencies that have been working on the site.

19:22:45 We also have representatives of the group

19:22:49 1 of companies that has been working to investigate
2 and clean up the site. And representatives of a
3 couple of other organizations that we have asked to
4 work with the community and the property owners at
19:23:06 5 the site to make sure they have some help in dealing
6 with the ramifications of the superfund cleanup
7 process. So, I won't introduce them all by name but
8 they are here and if you have specific questions, I
9 will try to direct you to the specific party. So
19:23:25 10 please see me if there is a particular person you
11 want to talk to.
12 Okay. I promised five minutes on the
13 superfund process, and I'll try to keep it to that.
14
19:23:39 15 PRESENTATION BY MR. HODGE
16
17 MR. HODGE: As you may know that Congress
18 established the Superfund Program about 1980 for the
19 purpose of helping to clean up the most hazardous
19:23:57 20 abandoned waste sites in the country and they are
21 about, I would say, roughly three broad phases in
22 the cleanup of a superfund site.
23 The first two -- I am sorry, the first one
24 and last one I guess are relatively short. I would
19:24:17 25 call them, the first one, assessment phase and the

19:24:21 1 last one is maybe the implementation phase.
2 And then in between those two we have what
3 is usually, generally speaking, the longest phase,
4 the investigation part of the site, where we try to
19:24:35 5 determine the exact nature of any chemicals of
6 concern, their extent -- how far they spread out at
7 the site, what pathways they might take to affect
8 the health of people or the environment in the area,
9 so that investigation can take some time. It's a
19:24:58 10 fairly detailed undertaking, but we are here at the
11 waste disposal site, hopefully reaching the end of
12 the investigation stage. So it has taken quite a
13 while to get there, but we think we are in a good
14 position to move on with the rest of the site.
19:25:17 15 So, looking at this diagram behind me, the
16 site was discovered in 1986 and at the end of the
17 assessment phase, we decided with this site to list
18 it on the national priorities list. And that means
19 we decided it was one of the worst sites in the
19:25:39 20 nation that needed the full superfund process in
21 order to deal with it properly.
22 Then we moved on into 1988, into the
23 investigation phase, and went through the remedial
24 investigation to determine what was out there and
19:25:55 25 how bad it was through the feasibility study to look

19:25:59 at the different ways to clean it up, and reached the proposed plan stage, which is basically where we are tonight.

But we also derived there back in 1983 -- during that stage, we had a public meeting, much like this one, and we received a lot of comment from folks at that public meeting. And during the months that followed, as we moved on into the remedial design phase, that we hadn't properly characterized all the waste at the site.

So you see where we took that U-turn back about 1986 and decided when Andrea Benner became the new project manager for the site -- we decided at that point to reopen the investigation. Since we were in the remedial design phase, we called it remedial design investigation. We actually went back to do further work on the extent of the contamination of the sites, mainly due to the comments that we were receiving from the public at that time.

So the result of that is -- actually, it's in this large volume that is over here on the table the supplementary feasibility study which resulted in the proposed plan that we are here to discuss tonight.

19:27:25 I should mention that all of these stages that we are talking about is documented. Each milestone generally has a document attached to it and those documents are available for anyone to
19:27:35 review. And all the documents associated with the site are in the record center in our office in San Francisco.

Also, every important document that we use to reach our decision would be in the administrative
19:27:51 record that's housed here locally, so if you want to review the documents that we produced, they are all available to you.

So I think that probably brings us pretty much up-to-date and where we are at. Now we are
19:28:35 back at the proposed plan stage. We have an idea of what we need to do to clean up the site in the most safe and effective manner for the community and everyone affected by the site and so at this point I think I'll let Mark talk about the detail of what we
19:28:53 have done so far and what we propose to do to clean up the site.

I pause here briefly to see if there are any questions about the process so far, the superfund process in general.

19:29:10 I think I kept it to five minutes. I'll

19:29:12 turn it over to Mark.

PRESENTATION BY MR. FILIPPINI

19:29:33 MR. FILIPPINI: First, I am Mark Filippini. I am the Remedial Project Manager for the site, as Don indicated. I've been involved in the site for many years. Started assisting Andrea Benner several years ago in remedial investigations at the site. And I think I know most of you here. I want to thank you for coming out here today.

What I want to do in the next 20 minutes or so is put together a background, the historic background of the site and then sort of get in and give you some general description of the alternatives that we looked at for remediating the site and our preferred alternative, what we think is the best way to go forward that meets the community's needs and addresses all of the concerns with respect to regulatory concerns and the community concerns.

I'll sort of also explain and get into why we selected our alternative, how it fits in with the City of Santa Fe Springs. They are in the middle of the master planning process to redevelop the site so

19:31:07 I will try to sort of pull all of those things together.

This is an aerial view of the site, which I had. Can you roll it? This is an aerial video 19:31:35 that was taken several years ago. As you can see, the site is located just west of here. The street right down parallel to the horizon there is Santa Fe Springs -- excuse me, Los Nietos Road. Greenleaf Boulevard is here to the right. Los Nietos, I am 19:32:00 sorry, is at the bottom. Santa Fe Springs is at the top. I see some of the general features of the site. The high school, the residential area, Fedco property.

Go to the next slide. This is a little 19:32:28 bit better detail aerial photo of the site. Again, Santa Fe Springs, Greenleaf Avenue. Shown there is a green circle in the center of the site. The blue dash lines is the boundaries. The green circle represents the approximate location of the former 19:32:49 reservoir that is the main feature of the site. It is a concrete-lined reservoir. It is approximately 20 feet deep in the center and it represents, as I said, the main feature of the site where disposal occurred.

19:33:05 That reservoir -- go to the next slide --

19:33:09 was constructed about 1920 and at about this time, which is about 1945, it was converted to oil storage, product storage into a disposal reservoir that started accepting oil field waste. And between 1945, when it operated, and the early 1960s, it accepted various oil field waste as well as some other hazardous waste because it was a waste facility and there was no regulation at that time, so many different types of hazardous materials were brought to this site.

One of the main features this shows to the right are some pits. Actually, Greenleaf Boulevard is not constructed at this point. And they accepted also -- go to the next slide -- also wastes of various types, certainly thinner -- you can see the thinner thicknesses, less thicknesses than the main reservoir, but as you can see what arose between the 1940s and 1960s was placement of those wastes in those pits. And then later development, as we see here right on top of those, and that is sort of the main component of the remedy that we have to deal with going forward.

Let's go to the next slide. This is the aerial photograph of the site as it generally currently exists. Again, the green outline showing

19:34:51 the approximate location of the concrete-lined reservoir that is now under anywhere from 5 to 15 feet of soil. And as you can see, one of the areas that have pits, it was around the -- just
19:35:08 about around the entire perimeter of the site where there was some placement of wastes. And each of those parcels where many of you have businesses or are tenants, have some amount of this waste material that extends underneath your property.

19:35:23 Let's go to the next slide. This shows the limits of the waste. It shows the limits of the waste and the dark outline, again the green outline of the former reservoir. And as you can see, it extends under several buildings of the
19:35:47 properties. This is what, basically, our remedy will be addressing, the waste not only in the center part of the reservoir, but also the waste that extends around the perimeter.

Another driver is soil gas. As these
19:36:03 wastes decay, they can generate soil gases they. Soil gases are generated beneath the ground and can migrate some distances from the waste source. It can create problems for occupants on the property. And types of soil gas that we found that are out
19:36:25 there are vinyl chloride, methane, benzenes and

19:36:31 1 several other components that have to be addressed.
2 Let's go to the next one.
3 What I will be doing here now is going
4 through your five alternatives.
19:36:42 5 The first one is easy is because that
6 is no action. Compare all the other active
7 alternatives to that so alternative one is,
8 basically, what risks or what conditions are under
9 the current conditions and the other alternatives
19:37:04 10 are compared against that to see what improvements
11 are made based on the elements of the alternatives,
12 so I won't be discussing alternative one. It is no
13 action alternative.
14 What I will do is go through the four
19:37:24 15 active alternatives.
16 Alternatives two and three are, basically,
17 capping elements, primary element being the primary
18 element of the remedy, and elements four and five
19 involve extensive excavation in and around the
19:37:47 20 perimeter of the site and, specifically, in parcels
21 that were affected by buried waste.
22 So alternative two, I'll tell you, is our
23 preferred alternative. I'm not giving anything
24 away, and I'll quickly go through alternative two.
19:38:09 25 It consists of an RCRA equivalent cap.

19:38:20 Many of you asked what an RCRA equivalent cap was and I didn't do a great job of explaining it in the proposed plan.

An RCRA equivalent cap is, basically, a
19:38:23 state-of-the-art cap, that it is one of the most protective types of caps. The cap has five components, including a base material and cover, and it includes a flexible membrane liner in the center of it. Above that is a liquid collection system to
19:38:43 collect precipitation, and beneath it is a soil gas or collection system that can be piped and plumbed and then directed to discharge or treatment to systems that can collect any gas that might be accumulated beneath this cap. It is, as someone
19:39:06 requested in the past, the best technology to apply to that portion of the site.

Continue on.

The other elements of the remedy includes, basically, a collection system that includes wells
19:39:18 that go into the center of the reservoir and collect liquids that may be accumulated. Liquids are sort of being collected in several of these wells that we now have. They are now at a fairly slow rate. We went through a fairly extensive liquid removal
19:39:34 process over the last summer and year 2000.

19:39:39 Another element is a monofil cap and this is probably what is going to affect most of the property owners out there. It is a fairly simple cap. It encompasses only clay or clay, some with
19:39:54 asphalt pavement, but it will meet the design criteria established by the State of California to be protective. And as you can see, it affects many of the perimeter parcels. For the most part, those would be pavement where there would be a need to
19:40:12 have clay capping otherwise.

Another element that is also very important is the bio venting barrier system. In this case what this will do is also add oxygen into the surface -- the subsurface, to allow these gases
19:40:31 to degrade and decompose naturally. It's part of the reason why they degenerate is because it's not -- it's in a no oxygen environment. So, by adding oxygen into it, it degrades those, essentially, dangerous gases and prevents them from
19:40:49 migrating any further from this sort of zone we have surrounding this site.

Then the other major components are engineering controls, since many of the buildings are overlaying on the waste. Waste is beneath the
19:41:08 pads of the buildings. There will have to be

19:41:12 1 engineering controls placed on many of these
2 buildings and that can typically be either certain
3 venting systems or perimeter venting systems that
4 may go around the outside of the buildings.
19:41:24 5 Actually, active venting systems can go on the
6 inside of the buildings. There are several
7 different things that can be applied.
8 There are about three buildings in our
9 estimation that cannot -- that we believe will not
19:41:39 10 be able to have engineering controls because of the
11 thickness of the waste beneath them and those
12 locations and those buildings will likely have to be
13 removed.
14 I have already spoken to every one of the
19:41:54 15 property owners and tenants that are involved with
16 those buildings, so if I haven't spoken to you, then
17 your building is not one of them. But those that I
18 have talked to, as we get into the design phase in
19 the spring, we will get into more details of what
19:42:11 20 will have to happen. It is possible that they might
21 be able to be saved, but our general consensus is
22 they will have to come down. There are only, like I
23 said three that I know of now.
24 AUDIENCE MEMBER: Mark, What does the blue
19:42:32 25 indicate?

19:42:35 MR. FILIPPINI: The blue are buildings that have the engineering controls. These other buildings will likely not need engineering controls. The blue are buildings that will need some kind of
19:42:40 engineering controls.

AUDIENCE MEMBER: (Inaudible question).

MR. FILIPPINI: Actually, several of these buildings are blue buildings, include the three that I am talking about.

19:42:57 AUDIENCE MEMBER: (Inaudible question).

MR. FILIPPINI: They are not -- I don't think we have a problem there.

AUDIENCE MEMBER: Will you indicate the places the three buildings you discussed?

19:43:04 MR. HODGE: Sorry to interrupt you, but when you have a question for Mark, I don't think Mark minds taking the questions now, but would you identify yourself?

MR. DALLITZ: Ron Dallitz. Buffalo Bullet
19:43:24 Company.

Mark, would you please indicate the three buildings that you were discussing?

MR. FILIPPINI: One of those was yours here, and Timmons has a structure, also. And the
19:43:34 Brothers Machine Tool is one we also considered,

19:43:41 okay. Let's go forward.

Alternative three, let me quickly explain what alternative three is before we get into it.

We are -- one of the objectives we have
19:43:55 in the Superfund process is to the maximum extent possible, is after we place our remedy on the site, it can be used by the community as much as possible.

And the City of Santa Fe Springs has taken the initiative in applying for and they received a
19:44:18 $100,000 grant from the EPA to put together a master plan for the redevelopment of the site. Alternative two, which I just went through, allows for, to the maximum extent possible, the current uses of the site, meaning, most of the buildings will be
19:44:39 standing there whether we come in and put that remedy down. EPA feels it is as protective as we can make it. We are sort of done at that stage.

What alternative three shows is that the City comes in and implements their main objective on
19:45:01 redevelopment of the site over the next -- parts of the site that got redevelopment over the next two to three years, other parts may not be redeveloped for five to ten years, depending on market forces and the like. Andy Lazzaretto is here with the City of
19:45:17 Santa Fe Springs to explain some of those elements

19:45:20 to you.

What we want to do is show, basically, what a site would look like with redevelopment in place on top of the site. Like I said, I'm done at alternative two. The City then can come in at the direction of the State of California under guidelines spelled out and then place the elements of alternative three, so we put alternative three in the feasibility study to show what it will look like in the future, way out in the future. But at any one time it will likely look like a combination between alternative two and alternative three.

So let's go through alternative three. It has the same equivalent cap, the same collection system, the monofil cap, the bio venting barrier system and stop here. And other what we call redeveloped areas are shown here which is basically the remainder of the site.

Then the next slide shows the buildings that could be potentially removed in the future. It will likely happen in phases. We anticipate the main portion of the site, the least developed will go first, then either of these two major areas here at some time in the future.

Then new building pads, a new development

19:46:56 basically can placed on top of this. We have the technology now to place things on top of these caps to make them part of the cap and this allows for beneficial reuse of the property. Here on the RCRA
19:47:09 cap it can be used for low impact uses, so that is, basically, the elements of alternative three.

Let me quickly go through alternative four. Alternative four -- do one more -- is what we call the excavation component. I want to show that
19:47:26 there has been some amount of interest in considering removing soils around the perimeter of the site. This shows removals of the soils as they exist now beneath these areas. There is one area, eight and six. The red buildings would have to come
19:47:48 down in order to facilitate the removing of that soil. The soil would then be placed back beneath this cap in this reservoir.

In doing this, the elevation of the reservoir would go up approximately six feet from
19:48:06 its current elevation. One of the main problems we have is twofold. One, it does not allow for very easy reuse of the property by the City of Santa Fe Springs because it creates even more severe gradient changes on the property.

19:48:26 Secondly, it does not -- we do not gain a

19:48:30 whole lot of benefit from the -- because the capping, as we can put it down, keeps it as protective as moving it. And if we had to move it and excavate it and open that up, it creates a risk
19:48:46 of exposure to a large amount of soil to the community residents and the community members surrounding it, so we are really not too comfortable with opening up these areas and doing a lot of excavation and hauling dirt from the site.

19:49:07 Show you five and then about done here. Four will have the same components, RCRA cap, bio venting barrier system -- and then five.

One more. This shows even a more extensive waste excavation. It addresses all wastes
19:49:38 that exist outside of the central -- what is called area two, central disposal area. And again this is the -- two shows you the number of buildings in red here that would have to come down for that. Being a larger -- typically larger volume of waste, that
19:49:54 creates one, more exposure to the community as they go through the excavation and replacement of the waste back underneath this main cap, that would result in an increase of the central cap of approximately nine feet. It is currently about
19:50:17 15 feet above street level so it would bring it up

19:50:22 to approximately 24 feet. So some of the problems associated with alternative four.

It would then have a RCRA cap over the entire area. Same components, take control bio venting system, and that's basically the components of alternative five.

How did we do the analysis and how did we arrive at alternative two as our preferred alternative.

19:50:57 The Superfund requires us to look at nine criteria, which are listed here, and they are also listed in your proposed plan mailer. Each -- can't even evaluate each alternative if it doesn't meet the two regulations, with the exception of alternative one, being the no action alternative. They all have to meet those first two.

The remaining criteria are ones that we looked at and balanced out. Is there a short-term protective? Is it a long-term effective? Is there going to be short-term risks, long-term risks, future use of the site, these whole litany of these things starting coming into play, how implementable it is, as well as you can see on the bottom there acceptance by the community and by the State.

19:51:51 So in our analysis, the bottom line was

19:51:55 alternative two we felt best meets all of these criteria, because unlike alternative four and five, four and five we felt put us, specifically the community, at a little bit more risk in the short
19:52:12 term if we implement some massive excavation around the perimeter of the site and it would sort of leave the City with a little less developable property. And it would force the removal of many of the buildings out there now that may not have to be
19:52:33 removed unless redevelopment comes in the future.

So this is, basically, my presentation. That's how we came up with our preferred alternatives.

Right now we have a small enough group I
19:52:50 can open up to questions any alternatives, how we arrived at any of our analyses. Don wants to open up the hearing and address questions.

MR. HODGE: I just wanted to mention we would like to start the hearing part of the meeting
19:53:22 tonight and what I would do is just move the microphone out here to the center and you can just come up and address Mark, primarily.

I would like to ask that people try to stay on the subject as much as you can and try to
19:53:41 allow -- be succinct enough to allow everyone who

19:53:46 wants to comment, be able to comment. We have at least an hour to take comments, so I'm hopeful that will be enough time until the janitors tell us to go home.

19:54:02 I do want to mention if you are not comfortable getting up and speaking in public, there are a number of other ways -- go to the next slide -- there are other ways you can comment. We will take comments in writing, any form, fax, letter

19:54:22 or on the comment sheets that are over on the side table, if you want to write up something and leave it with us tonight, we will respond to that. Mark will be writing this summer. The addresses for mailing or faxes or e-mailing us are all in the

19:54:41 proposed plan, so if you don't have those, please pick one up. And if you have any other questions, contact Mark.

But with that, why don't those of you who want to comment, if you could just line up in the

19:54:59 center aisle, does that work for you? Or whatever you feel like -- coming up, that's fine, questions, comments, whatever, we will take at this time.

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19:55:35 ///

19:55:35 1 AUDIENCE QUESTIONS

2

3 MR. TIMMONS: My name is Ed Timmons.

4 I have a property that you mentioned, one of the

19:55:39 5 buildings that will come down, and the time-frame

6 between your taking my building down and the

7 redevelopment, if you want to redevelop my area,

8 what do I do in the meantime? What's the time-frame

9 and what's the alternative in between? I think

19:55:59 10 there is another gentleman here that has a property

11 in the same situation, or maybe two gentleman.

12 MR. FILIPPINI: As I understand, the

13 question is what do you do between now?

14 MR. TIMMONS: My building is coming down.

19:56:15 15 The redevelopment may not take place on my property.

16 MR. FILIPPINI: You have a structure

17 coming down; is that correct?

18 MR. TIMMONS: Yes.

19 MR. FILIPPINI: That is a problem with

19:56:27 20 respect to --

21 MR. TIMMONS: To me, especially.

22 MR. FILIPPINI: There are things that we

23 might be able to do to see about accommodating you

24 in the short term.

19:56:38 25 MR. TIMMONS: I don't want to move my

19:56:41 plant twice, that's the thing.

MR. FILIPPINI: I understood your's was more of a sheltered structure?

MR. TIMMONS: Yes. It's an open air

19:56:48 structure so I wasn't sure if you were bringing it down or what. You said you were.

MR. FILIPPINI: My sense was given it was open air and difficulty in trying to get a cap around it, it might be -- it might have to come

19:57:04 down. It might also be possible if there was no other alternative, to address finishing off the cap. So all I can say is we can try to accommodate it as best we can.

MR. TIMMONS: Okay.

19:57:37 MR. HODGE: I just got a note that I need to remind people when you state your name for the transcript, also give your place of residence and affiliation.

MR. FILIPPINI: We can talk about the

19:58:09 redevelopment process, if that's something you would also like to get into, if everyone else has made comments.

MR. HODGE: I know some of you out there have things that you want to say to us when you are

19:58:26 ready. I am sorry the proceedings are what they

19:58:29 are, but we do want to make sure they are on the record.

In the meantime, let me give you some ideas. First of all, if there are any alternatives

19:58:41 that you like that we have presented, feel free to express your preference.

If there are any problems with the alternatives that you feel we need to know about, please let us know. If you just think we are doing

19:58:59 a great job, you can tell us that, too.

MS. MAPLE: Pam Maple. My dad and my sister and I have property on Santa Fe Springs Road in Area 1.

You guys are doing a great job. I have

19:59:27 concerns regarding, I guess, the redevelopment and things like that, but first, let me address if you go with alternative two, will our property be deemed sellable if we wanted in the future to sell the property? It would be all okay or we would have

19:59:53 problems selling? It would be cleaned up as far as the State and everything is concerned or would there be stipulations on the sale of the property at some time in the future?

MR. FILIPPINI: You want me to answer

20:00:08 that?

1 MS. MAPLE: Yes.
2 MR. FILIPPINI: The question is what does
3 one -- the remedy is put into play, how does that
4 affect the sellability of the property and there
20:00:30 5 have been several property owners that are sort of
6 waiting to see if other properties get them ready to
7 sell for sometime. And it has been held up because
8 of the Superfund process.
9 Our attorneys here might be able to
20:00:49 10 correct me if I am wrong, but each of the property
11 owners will have to enter into the settlement
12 agreement, and that's, basically, to allow -- to get
13 an agreement between you and EPA and the State of
14 California for, primarily, access to the site and
20:01:08 15 other controls, such that when we do put the cap on,
16 you maintain or -- you don't maintain the cap, make
17 sure you don't damage the cap in any way and allow
18 the State and the people maintaining the cap to
19 continue their maintenance of the cap.
20:01:27 20 It's my understanding that once that
21 agreement is entered into, and that typically occurs
22 even before the remedy is constructed, once that
23 agreement is entered into, your property is
24 typically sellable. My attorney is nodding my head.
20:01:48 25 MS. MAPLE: I think that's that.

20:01:50 MR. FILIPPINI: Those can happen, as we talked about, we are expecting those discussions starting next month with each of the property owners and they can typically be dispatched within several
20:02:03 months. I know several property owners are looking forward to getting that going.

MS. MAPLE: I also wanted to ask, the $100,000 that the City was given as a grant from the federal government, what does that buy?

20:02:39 MR. FILIPPINI: The City used or is using that money to go forward with developing a master plan. As many of you might know, the entire of the site is -- has been deemed by the City as a redevelopment area, which by definition gives it
20:03:01 certain legal status and gives the City certain jurisdictions over the property for future development, so it is already a redevelopment area.

What they did with the grant money and what they proposed to do on their grant, and have
20:03:21 been doing, is developing a master plan, which can be a bit of a lengthy process. It is done -- deemed done by a registered architect and the architect goes through and looks at the site, the limitations on the site and sort of starts coming forth with
20:03:41 alternatives that they think they can go forward

20:03:45 with, based on the elements the City would like to see in that redevelopment.

Parenthetically, the site as a Superfund site, can never be used for residential, schools, 20:04:01 hospitals or day-care centers so their master plan sort of had to accommodate that. But, primarily, the money they are using is going towards the architect to develop the master plan and hold public meetings, public input of the process.

20:04:23 It also involved hiring landscape architects to give ideas, ideas on what can be made part of the master plan, and also real estate experts can help with the relocation or start the process of the relocation for some of the property 20:04:45 owners.

MS. MAPLE: So if some of us, as property owners, have to relocate or our building has to come down, what money -- how are we compensated for that? Do we just suck, or. . .

20:05:14 MR. FILIPPINI: Again, it's a complete separate process, actually, than the Superfund remedy process. Remember, the City's redevelopment lays on top of the federal run.

I was a planning commissioner for many 20:05:29 years and consultant for many years so I know the

20:05:32 1 process so I'll answer the question.
2 You, under any redevelopment area, under
3 any scenario, you are covered under the State of
4 California Relocation Act, which is consistent with
20:05:49 5 the Federal Uniform Relocation Act. And it provides
6 rights and benefits to property owners and tenants
7 under the process of redevelopment and relocation.
8 And Andy Lazzaretto can provide you with all of that
9 information.
20:06:06 10 You are compensated fair market value of
11 the property, and finding new properties, there is a
12 whole host of benefits that are available to you,
13 and the City of Santa Fe Springs can provide you
14 with the literature packages.
20:06:24 15 MS. MAPLE: That's separate from the EPA?
16 MR. FILIPPINI: That's very separate from
17 the EPA. Like I said, all I'm doing is handing off
18 the remedy that the City can use.
19 In fact, we have even -- there is a
20:06:38 20 possibility if their redevelopment process goes
21 forward, especially on the areas along Greenleaf and
22 the central portion of the property, that can occur
23 simultaneously with the construction of the cap. It
24 saves a lot of time and saves some amount of money,
20:06:59 25 and basically allows sort of an integration of the

20:07:04 construction of the remedy cap.

MS. MAPLE: And as far as the alternatives go, you are listening to our input and then you will decide, you, the EPA, will decide what happens to

20:07:20 the site as far as which alternative you use?

MR. FILIPPINI: Right, with the elements of alternative two.

Remember, it stops at redevelopment, but the protective elements of alternative two and all

20:07:40 those elements are ones that we put forth as our recommended preferred alternative.

I know we have had -- one reason I'm not insulted we are not getting a lot of comments, is we have meeting together for years now, especially over

20:08:04 the last year we have had many meetings where we really try to be straightforward in the direction where we thought we were going with this remedy and what it might look like. And I think no one should be confused that we are sort of formally here

20:08:23 talking about things that most of us have already talked about. So I think that's the process.

Does that answer -- thank you.

MR. STANSELL: Vernon Stansell. Stansell Brothers. We lease a building that's in the blue

20:08:49 zone. That's one that you said that you would --

20:08:52 that would require venting. I was wondering what process that would involve?

MR. FILIPPINI: It could be either -- we really won't know until we get to the design phase and that design phase will be coming up in the next spring. We anticipate about February or March of next year is when we will start to be looking at each of the buildings, taking a look at specifics on the buildings, like its proximity to known gas hot spots. We will look at its foundation condition, its building, its construction, its existing ventilation system.

Many of these buildings we have been monitoring the air inside a number of these buildings for a number of years and we have not had any derogatory hits from the soil gases so it appears that, for most part, there is no problem associated with the soil gas.

What has to be remembered is this remedy has to be long-term protective and we are typically shooting for 30 years. So those are the kind of analyses to no end. We will make sure we are completely comfortable with the foundation. We may recommend sealing the foundation, and in many cases it might involve perimeter soil gas control and

20:10:25 venting system so it could be one of a number of things. We will be meeting with each tenant and owner individually as we go forward with the design element to talk about what works best and what we
20:10:37 may have to do with each property.

MS. STANSELL: Karen Stansell, the lesser part of Stansell Brothers.

We are right in front of Buffalo Bullet and C & E, in the same driveway, and just a short
20:10:57 distance. Now Our building is not -- what is the destruction? How is that going to impact us? Do you have any idea?

MR. FILIPPINI: Well, you have to remember a monofil cap will have to go down everywhere that
20:11:19 wastes extends, and I'm talking about the parcels that extends around the perimeter of the site, this is the parcel where your business is in, so there will be some element of construction associated with that.

20:11:31 The existing asphalt would have to come up, some modest amount of regrading for consolidation, so it's workable for the use of the property. Then the clay cap, then the asphalt on top of that.

20:11:51 MS. STANSELL: You are talking about the

20:11:53 tank?

MR. FILIPPINI: No. I'm talking about your driveways and your back parking lots, basically. Many of you -- I think each of you know the sort of the general extent of the waste in your parcel. Anywhere that we have identified waste, there is going to have to be a cap placed down there. That will mean that existing pavements will have to come up and a cap put down and a final cap will typically be a pavement again that you can use and drive on and park on.

Now, in the specific parcels that we have talked about the building -- the Buffalo Bullet building.

MS. STANSELL: I was thinking about hauling the building away.

MR. FILIPPINI: There is not much to the buildings so the demolition would not be that typical but it would have. . .

MS. STANSELL: Buffalo Bill wants to know when.

MR. FILIPPINI: Well, we have already had this conversation.

The official decision on whether or not it will need to come down will come to the design

20:13:01 phase, as I mentioned, in the early spring 2002. What I told all the property owners and tenants is sort of look for -- look for -- to be contacted about that time when we get into that phase and we
20:13:18 will be meeting with each individual owner and tenant, talking about the engineering controls will have to be placed, but the placement of the cap, it has to go along there, also. And there is timing elements, too.

20:13:34 The entire cap is not going to be done in a couple of weeks. It will have to be phased in, working with the construction people and the PRPs who are doing the work.

We will work out a schedule as to when
20:13:50 exactly that will happen, but approximately next spring is when we start talking to individuals about how it will affect their specific structures and their parking areas.

AUDIENCE MEMBER (UNIDENTIFIED): What's
20:14:07 the timing of construction?

MR. HODGE: Please use the microphone.

MR. WALTER: Greg's friend. We have a question. My name is Gene Walter and I own two buildings on the site, as you know. They have not
20:14:31 been indicated as one of the ones coming down.

20:14:34 I'm just wondering what the time-frame is from the initial plan construction redevelopment area to the time you get to knocking down our building, and are we talking about five years? Eight years? I have got tenants that are going nuts.

MR. FILIPPINI: As you recall, the question of when the building -- the building doesn't need to come down for the remedy.

20:15:03 MR. WALTER: I understand that.

MR. FILIPPINI: It's the City's track at that point, and the City does not currently have a developer in mind ready to bulldoze your buildings. All we are doing at this point is -- speaking of the City.

20:15:17 MR. WALTER: But once they started developing, the designated areas, how long will it be before they start attacking the blue buildings.

MR. FILIPPINI: No way of telling, because the first phase could include only that parcel along Greenleaf and the center parcels and the remaining may not go into development for five or ten years.

20:15:28 It could also occur a year from now, but until the City has a developer at the plate or at the table ready to talk, they really can't give you

20:15:51 a time-frame.

That is one of the difficulties in trying to explain this. We have had this conversation with many of the property owners and the tenants, 20:15:58 especially those who aren't interested in moving. There is that unknown and it is something that comes with the territory when you are in a redevelopment zone, even maybe it wasn't there as part of the Superfund process, you would be going through this 20:16:23 anyway. The same things you would be going through.

Yeah, you are in a redevelopment zone. All you are doing is waiting until the City gets a developer to come in and get a -- we don't know what the timing will be. But it's all done under a major 20:16:42 public process. There will be hearings on it. There will be discussions. It will all be done in the open.

I also want to mention, when we get to the design phase, there will be a series of meetings 20:16:56 also with the property owners and public, which can come in and talk about the details of the design and the details of the construction as we go forth because there will be issues. I'm sure concerns about dust control and public safety as we go into 20:17:16 the construction phase, I am sure they will want to

20:17:19 know what's going to happen and when. This will be a process the same as the redevelopment.

MS. SANFORD: Stephanie Sanford. Technical Outreach Services To Communities.

20:17:38 As you mentioned, the community is concerned that dust may spread contaminants, and alternatives four and five talk about -- an excavation is a problem maybe because of dust.

Will you talk about how that is different

20:17:56 in redevelopment in alternative three, how that will be managed?

MR. FILIPPINI: Good question.

One of the restrictions and parameters that were placed on the architect, and making his

20:18:14 life miserable, is all of these concerns under the federal and state requirements that this is a waste and we will be putting buildings on top of this waste. And what he could and could not do, so one of the primary elements of the redevelopment will be

20:18:34 that the waste cannot be moved in large quantities. That's not to say a piling may not have to go through a small amount of waste or some thin veneers of waste cannot be reconsolidated.

Primarily, the major portion of the waste

20:18:55 that exists around the perimeter of the site cannot

20:18:59 be impinged upon. The State of California is there telling them they can't do that. So their buildings have to go on top of that. Their utility corridors have to go around that. Their drainage sequences
20:19:16 and landscaping has to accommodate all of that. So the whole purpose of putting those restrictions is to assure that when redevelopment does occur, that massive amounts of waste are not moved around and exposed during that construction period.

20:19:36 And they will be like any other construction operation. There will be dust control measures that the Los Angeles Air Board has very very strict dust control measures. And there will be monitoring that any controls that have to go in
20:20:00 on construction, to make sure those -- exposure will not occur. And technology exists. All sorts of things, but primarily will not be digging into that gue and that waste.

As weeks ago forward with the
20:20:22 redevelopment alternative two, we did not want to get into that tens of thousands of cubic yards of waste.

MS. C. SMILEY: Christine Smiley. I'm a resident in Whittier, east of the site. Between
20:20:45 alternative two, which is the preferred one, and

20:20:50 three, when will we know which one you have chosen and what steps will you go through to make the absolute alternative?

MR. FILIPPINI: As I said, they are

20:21:03 basically the same alternative. All it does is show you what the City could do with the site after alternative two has been constructed, so is your general question how?

MS. C. SMILEY: Out of all the

20:21:24 alternatives, when will it be chosen?

MR. FILIPPINI: Oh, the process of selecting. The question out of all the alternatives, what is the process. That is called the record of decision. We have this comment period

20:21:40 now that will run through July 2nd in which I take public input and anyone can comment, either the state, county can comment on what we propose.

Then I will draft up a Record of Decision, which has all the background documents. It's a

20:21:59 little bit more complicated than the feasibility process, but I can control it more because I write it. But I go through a pretty descriptive process of what the status of the site is, conditions of the site, the remedy that we selected, how we arrived at

20:22:21 that remedy, response that we received from the

20:22:25 1 community on the remedy. I write that up and that
2 gets signed by my management chain all the way to
3 the regional administrator, which is a fairly high
4 level at EPA, with special notices going out to
20:22:43 5 State of California.
6 Then the ROD is entered into the
7 administrative record. Then there will be a public
8 decision. The Record of Decision has been entered
9 and a facts sheet will be issued and then that's,
20:23:04 10 basically, the green flag for us to start working
11 with the PRPs in getting the schedules set up and
12 getting ready to go to the design. There was a
13 considerable amount of design done back in the early
14 nineties when it started taking off.
20:23:23 15 MS. C. SMILEY: Do you have an estimated
16 time-frame?
17 MR. FILIPPINI: Yes. I anticipate having
18 the Record of Decision completed by the end of the
19 summer, possibly September, October, then we will be
20:23:36 20 starting design.
21 We anticipate starting design in October,
22 November. And then the WDIG, the group who has
23 indicated interest in constructing the remedy, is
24 anticipating going to construction next -- next
20:23:54 25 spring, late spring. We will be in the design

20:23:58 phase, as I mentioned, between, say, November -- November, December we will be doing stuff on the actual sort of blueprint elements. Then January, February I anticipate going out to the -- each of
20:24:11 the landowners and tenants and talking about the individual buildings.

By then we will have master schedules developed. There will be public meetings during that process. We will set out where we are at on
20:24:25 the schedule. But the intent now is to, hopefully, get ground broken on the first phase of construction now during the construction season. I may ask the project navigator are we anticipating about a two-year start to finish? One year to 18 months,
20:24:58 and that was Roberto Cuga, the project manager.

MR. SMILEY: I got a little question here.

My name is Lloyd Smiley, resident of unincorporated area L.A., Whittier. I live within just a block.

20:25:27 Can you tell me -- well, this started about '97, '98. It had a ROD, then they already made their decision and capped it. Can you explain the difference, other than talking about some of the buildings coming down, what's the difference between
20:25:47 the cap then and the ROD today, four years later,

20:25:54 other than a couple million dollars?

MR. FILIPPINI: Very good question.

Did everybody hear the question?

Fundamentally, the difference between the cap design

20:26:07 that was proposed and the Record of Decision in 1987 versus what it is now.

Primarily, the difference is our understanding of the limits of the wastes around the perimeter of the property, in the parcels

20:26:26 surrounding the main reservoir in the area. We gained a lot of knowledge on that. We gained a lot of knowledge on the condition and extent of soil gases around the perimeter of the site.

We have done some work with -- there was a

20:26:48 considerable concern from the public about liquids, both within the reservoir and outside the reservoir, and we spent a considerable amount of resources evaluating the location and nature of those liquids, and we went forward, as I mentioned earlier, about

20:27:07 one year treatability study where we actually removed approximately 200,000 gallons from the central reservoir, so we gained a lot of knowledge.

The other up side of this whole thing, it has given the City of Santa Fe Springs time to look

20:27:33 into the beneficial reuses and what they would like

20:27:36 to do with the site. That's one of the big benefits our remedy addresses is the ability -- how to -- the maximum extent possible to help the City come in and do future redevelopment of the site. So that is
20:27:52 another difference in the cap between then and now.

Primarily, the main cap over the central reservoir, I believe it is identical to the RCRA cap as proposed then, which is state-of-the-art then and it is state-of-the-art now. So there is some
20:28:13 difference in the limits, as I said, liquid soil gases that we know more about.

MS. SANFORD: Stephanie Stanford again.

Would you say a little bit about water quality monitoring?

20:28:40 MR. FILIPPINI: Sure. The question is groundwater monitoring. Groundwater we are talking about?

MS. SANFORD: Yes.

MR. FILIPPINI: There are approximately 32
20:28:52 monitoring wells surrounding this site. It's a hydrogeologist. It's a bit more than I would like to see at the sites, but what it has resulted in is a very good understanding of the nature of the groundwater beneath the site and its water quality.

20:29:15 We have been monitoring this groundwater

20:29:19 site for over ten years now and have not found any indications that the site is releasing any contaminants to the groundwater.

There is quarterly monitoring that goes on
20:29:33 out there. The EPA has done monitoring, as well as overseeing the WDIG and PRP group that is conducting the monitoring on a quarterly basis. So we have detected some organic -- organic contaminants that appear to be coming from off site to the west of the
20:30:02 property, sort of coming up, grading it from across Santa Fe Springs Road. And we are keeping our eye on that, but there is a fairly well-known -- several well-known contaminant sources that are up gradient far to the west in Santa Fe Springs that are
20:30:27 contributing to it. But we are keeping an eye on it.

And as discussed in a feasibility study, we had the PRPs develop a remedy alternative to put in the feasibility study for groundwater and,
20:30:42 technically, we had to do that because the history of those contaminants on site, whether or not it was coming, the WDIG site, we had to address a remedy so we had them cost out a groundwater remedy. So if we do find in the future that any contaminants from the
20:31:05 site are contributing to the groundwater, we can

20:31:09 implement a remedy. But currently we don't see any.

MS. SANFORD: Just one more.

MR. FILIPPINI: Sure.

MS. SANFORD: Would you talk about

20:31:28 long-term monitoring, how long would the EPA be involved? When you finally leave this project, would others be monitoring?

MR. FILIPPINI: Sure. Once the remedy is constructed, under a joint EPA and State of

20:31:48 California oversight, operation and maintenance oversight of the site reverts to the State of California. EPA sort of steps away and the State of California, some of the best and the brightest in the country come in and they oversee operations, the

20:32:07 maintenance of the cap as well as all the monitoring involved of the soil gas and the groundwater monitoring.

Groundwater monitoring has the -- to be a component of the remedy for 30 years as long as the

20:32:25 site exists, and waste around the site, groundwater monitoring has to continue and the State of California will oversee that and they will develop monitoring plans. As the design goes forward, we will talk about, basically, it will likely be a

20:32:43 ratchet down version of what they have now because

20:32:47 it's a fairly aggressive program of what is going on now.

Also, statutorily, the EPA is required to -- every five years, go back and look at the

20:32:59 remedy, review what the state has done, how the site is doing, how the remedy is holding up, are all of our concerns with respect to protectiveness still holding up? Is the remedy doing what we thought it would be?

20:33:17 So every five years the EPA does take an active role and take a look at the books and make sure everything is going according to plan. And if we do need to make changes to the remedy, we basically open up a public process and talk about

20:33:36 any major changes.

MS. D. SMILEY: My name is Debra Smiley. I'm president of the Protect Our Neighborhood Committee. I reside on Coney Crest Road where I own two homes and also there is five homes on Martin

20:34:02 Road, property there -- plus with all the other residents within the neighborhood.

A question I have is, this is on the newsletter here where it says features, where it lists after the closure of the disposal facility in

20:34:22 1950, development of small industrial structures

20:34:27 began along Santa Fe Springs. Then down in the history, it operated under permit from 1949 to '64, then it doesn't say anything about the illegal dumping that was done after 1964 clear up to the eighties.

20:34:46 So this wasn't mentioned in the informational part of this that I think you know is very important to be put in there.

MR. FILIPPINI: Okay.

20:34:58 MS. D. SMILEY: Another part here, as I was reading through it, as I was reading on the other side where it says cleanup activities, the investigation further defined the limits and buried waste. It says Figure 4 and I can't find Figure 4.

20:35:21 MR. FILIPPINI: That's a typo.

MS. D. SMILEY: I thought so. I just wanted it clarified for the record.

MR. FILIPPINI: Right.

MS. D. SMILEY: Another question is the

20:35:31 gases are that are going to be monitored, where it says soil gases with the areas of concern with the lines in Figure 2, now, what type would be monitored and for how long? What is the length of time-frame? I mean, with all those that are marked with the

20:35:50 lines for the gas areas with the buried waste there,

20:35:56 we are talking about breaking up the driveways and the blacktop, what will be done with that? What precautions are taking with just digging up the blacktop around those buildings and the waste exposed?

20:36:11 MR. FILIPPINI: Do you want me to address those?

MS. D. SMILEY: Yes.

MR. FILIPPINI: With respect to the soil gas, monitoring is an integral component of the remedy and it basically has to go in perpetuity as long as there is soil gases being generated under State of California guidelines, as long as waste exists there and the combined monitoring. And bio venting wells are designed to -- if gas conditions get to a point where we have to, in fact, put a vacuum on them to take the gases out or in some ways inject air in them to get the gases to degrade, so those will be done in perpetuity. There is an existing monitoring well network out there for groundwater and soil gas.

When we get to the construction of the cap, most of those will likely be destroyed. We will be without a picture for a period of time. There will be phases as they go in construction,

20:37:26 they may not be able to save those wells and they may not be in the best locations. So when we get to design, we need to move them to the appropriate locations. We will do that under the design phase.

20:37:40 Now, it's also important to note that the groundwater -- the soil gas monitoring and the bio venting wells will not necessarily be concentrated on those soil gas hot spots because they can move around, but they will be looked at. The soil gas monitoring and bio venting system has to encompass the entirety of the site and has to be in place for purposes of perpetude, say as the groundwater goes.

MS. D. SMILEY: Would this be -- the Protect Our Neighborhood Committee would like to be notified in writing as to what the results of the monitoring system, when it's done every time it's done, we would like to be notified what the results are, as well as the groundwater. We would like to stay up on this because it is a 30-year cap or cap window that you are looking at.

MR. FILIPPINI: Right.

MS. D. SMILEY: I'm 50, so by that time I'll be 80.

MR. FILIPPINI: All that information is in the public record and will be available to you and

20:38:53 if we -- we can set up systems by where we can get those down to the library.

THE WITNESS: I know they will have it on the Internet, but we would like written notice that

20:39:07 it is being done and kept being monitored and what the results are for our committee alone. I mean, that's what I am asking, if it can be done, we would like it in the record as a decision that Gen Duncanson and myself, the committee, we want this

20:39:29 information at all times when the monitoring is done, you know, what the results are, whenever it's done, what scheduling.

MR. FILIPPINI: Okay.

MR. HODGE: We will note that.

20:39:42 MR. FILIPPINI: I don't know what I can commit to, but I will note it on the record.

MS. D. SMILEY: Also, on the groundwater, because that is a concern to all of us as residents.

Another thing here on the assessment of

20:39:57 future risk, when I was reading it, it says it certainly estimate the potential risk, the exposure for potential future residential uses but not potential reuse. Those residential uses are not anticipated so at no time can it be used for

20:40:14 children or residents.

20:40:16 Now you say that it can be used also for parking. What are the limitations on the parking? I mean, if they put in large industry buildings, will it handle a big rig?

20:40:32 MR. FILIPPINI: All that.

MS. D. SMILEY: It will?

MR. FILIPPINI: By design it will only be allowed to be used for a level of design that is acceptable. We do understand that in redevelopment, 20:40:49 the occupants of those new buildings and warehouses will likely like to maintain -- it is anticipated that as part of the reviews and redevelopment that those occupants of the developments that would go in would likely use those for pretty heavy duty parking 20:41:21 uses.

So the design of that cap would be commensurate with the anticipated load use, and there is also inspection elements on the operation, maintenance plan that calls for the State to come 20:41:34 out as well as the overseeing responsibility of responsible party groups that will do the oversight and maintenance of the entire property.

But they will come out and do inspections on a periodic basis to assure that the cap integrity 20:41:53 is maintained.

20:41:56 Now, being that the final grade will be asphalt, there will be certain levels of service. It will reach a certain age at which it has reached its maximum usage under which the maintenance plan upgrades of the recapping will have to go in place.

20:42:13 MS. D. SMILEY: Now, where it says risks from the WDI potential identified, the potentials identified are exposure to contaminated soil inhalation, inhalation of gases migrating to the enclosed spaces.

20:42:37 So now if you are going to be tearing up the blacktop in the area, that will be a pathway to exposure. When will it be done and when the school is not in session? I mean, during the summer months when kids are not exposed, because they are there for a few hours during the day to help keep down the exposure at St. Paul and also to the residents in the area.

20:42:54 MR. FILIPPINI: It's my understanding that the school is year-round so the ability to sort of accommodate a time period where students aren't in the proximity is likely not possible.

20:43:17 That said, that should not be a problem. Standard level of construction during these construction operations will be to assure that the

20:43:43 exposure is minimized and controlled and to a level that is acceptable to the community, and the uses around, so we are anticipating during the design process health and safety programs go into place and
20:44:08 permission to control the programs and monitoring the programs and emissions control systems are put into place to make sure those things don't hurt. So we feel as comfortable doing it during school hours as any other time.

20:44:31 Don has asked if I can talk generally what dust control involves. There are several elements to it. One, there is a big monitoring component and we don't anticipate that by just sort of going into the first level of fill, because you have to
20:44:55 remember under most, in fact, all of the waste that is out there now is under some thickness of what we call clean fill, it is not considered waste.

So we are working with that material. Will not present an exposure problem with respect to
20:45:16 hazardous contaminants, because it's not the waste material, and that's important for the community to recognize, even if you see dusts or people running around without protective gear. It's because they have deemed it appropriate because not every bit of
20:45:36 dirt on that site is hazardous.

20:45:40 So there are means under the L.A. County Air Districts, there are suppressants that can be used. Water is a major element. There are restrictions on wind speed, when the wind reaches
20:45:55 certain velocity, construction sometimes has to be halted. There are certain phases during the construction, monitoring will be in place. Health and safety person will make sure it is properly monitored.

20:46:13 Phasing is also an element of that that you might have to expose somebody to waste, given the proximity to waste, some modest amount of exposure can be tolerated because of the distance associated with the receptors being students or
20:46:33 residents. So opening a relatively small area to these petroleum wastes will not create a large exposure problem.

If we were to do that under a massive excavation, that would become a different story, so
20:46:53 there are things along that line to control it.

Mike, can you think of any other things? There are a whole host of technologies used in dust control.

MS. D. SMILEY: The reason I'm asking on
20:47:09 that is similar residents noticed the last time it

20:47:11 was mowed, in their windows sills there was dust but it was a sticky residue that stuck to the windows when they were cleaning it off and they have noticed that every time the property has been mowed so
20:47:31 that's why the question on that.

Another question I had from this is under the remedial action it says protect action objectives on Page 5. EPA's objectives for actions considered in this proposed plan are protecting the
20:47:54 health and environment, protect from contaminated soils, protect current and off site receptors from exposure to gases and prevent human exposure to site through state, federal standards and other uses, and it goes on.

20:48:15 What institutional control will be used to prevent this from happening? I think you have answered possibly part or it.

MR. FILIPPINI: Specifically, you are referring to the liquids exposure?

20:48:33 MS. D. SMILEY: Right.

MR. FILIPPINI: Well, not all liquids at the site are hazardous. That's sort of why the wording on that -- because rain does fall on the site and does go through some of the soils and it
20:48:48 does drain in different directions. And we have got

20:48:51 1 a drainage system in place now and it is monitored
2 to assure that wastes don't go off of the site. The
3 wording on that is to assure that the design of the
4 landfill, meaning our objectives on design, the
20:49:10 5 landfill cap, the RCRA cap and the clay monofil cap,
6 are such that we minimize the contact of water with
7 the hazardous waste constituents so that they don't
8 get into the water and can either migrate down to
9 groundwater or seep off the site through other
20:49:36 10 mechanisms and out to the gutter and through other
11 exposure ways.
12 So the cap, in and of itself, is
13 designed -- that's one of the primary purposes of
14 the cap, other than direct exposure. And also gas
20:49:51 15 control, control mechanism and its drainage
16 components are put on that cap and the monofil cap
17 to make sure that liquids are taken off of the site
18 and not allowed to contact the contaminants.
19 And the reason it is worded that way, like
20:50:10 20 I said, not all liquids that are on the site there
21 are hazardous, but if they do come in to make sure
22 they don't come in contact with the soil, that they
23 can become a problem.
24 MS. D. SMILEY: Under the institutions
20:50:27 25 controls for revisions site use and access, with the

20:50:32 deed restrictions, let's see, will any -- who is going to be monitoring all of this? It goes back to the state, I think you said?

MR. FILIPPINI: Correct.

20:50:49 MS. D. SMILEY: The State will be monitoring, and for how long?

MR. FILIPPINI: Same length of time.

MS. D. SMILEY: Same length of time, the 30 years for the cap or longer?

20:51:02 MR. FILIPPINI: 30 years minimum.

MS. D. SMILEY: Minimal of 30 years. Okay.

MR. FILIPPINI: We were a little slow on that one.

20:51:06 MR. FINCH: This is Michael Finch with the Department of Toxic Substances Control. Minimum of 30 years or when there is no longer a threat to water quality, so it has to be at least 30 years but even after 30 years, you would have to demonstrate

20:51:28 that there is no threat to water quality. So in reality it's forever.

MS. D. SMILEY: Now, on your other costs for the 30 year, it also includes the cost of operation and maintenance for the length of it.

20:51:51 MR. FILIPPINI: Correct.

20:51:51 1 MS. D. SMILEY: So the costs will
2 continually go up after the 30-year window?
3 MR. FILIPPINI: Yes. There will be
4 additional costs after 30 years, but agreements with
20:52:07 5 parties who are charged with maintaining it, that
6 agreement does not expire after 30 years.
7 MS. D. SMILEY: Okay. All right.
8 MR. FILIPPINI: That's cost. Cost is just
9 for estimating purposes, for comparison.
20:52:22 10 MS. D. SMILEY: I think that's all the
11 questions I have for right now.
12 MS. MAPLE: Pam Maple again. This is
13 purely personal and I don't know if it has any
14 relevance at all, but does the EPA or State -- is
20:52:57 15 there anything retroactive? I was playing there in
16 the fifties and sixties. When am I going to die?
17 Do you guys have any clue?
18 MR. FILIPPINI: I don't believe there has
19 been any studies.
20:53:18 20 MS. MAPLE: So there is no statistics?
21 MR. FILIPPINI: The State of California,
22 Department of Health Services did a toxic study for
23 the residents and that is --
24 MS. MAPLE: We live in a high cell cancer
20:53:34 25 group, high rate of cancer within our neighborhood.

20:53:38 MR. FILIPPINI: But that report is still on its way.

MS. MAPLE: Still working on it.

MR. FILIPPINI: So the short answer to

20:53:48 your question is we have not gotten anything yet. There is some health studies that have been done for around the neighborhood that might address.

MS. MAPLE: I was on top of that where the caps were.

20:54:06 MR. FILIPPINI: A lot of stories.

MS. ENGSTROM: My name is Sharon Engstrom, originally Crest, Debbie's sister. I always want the best of the best. I have said that how many times? We have gone through four years and I heard

20:54:26 the statement that the cap we are going to get is still relatively the same one we were going to get four years ago.

So four years down the lane, we are still getting -- all we have to live with that because

20:54:40 that's bureaucracy and I know within -- after you release the property and you are out of it, the City, the way they work with redevelopment, they will have a flat, "because it's not effective to go on five years," so the owners of the property have a

20:54:59 two year window to know who is going to be leveled

20:55:03 and who is not. That's a personal opinion.

The other thing is when I look at this alternative two and then five, there is a big difference. And I don't care about the cost and

20:55:17 these other sites, they may not care so much. You may save millions on that. Well, use your millions on me, on my mother's property, on the land around and protect our children, protect our schools and protect this neighborhood because we care.

20:55:37 And there are a lot of people who aren't and it's going to take several years of the people who own the buildings and who work here and been here. Their lives are on hold right now because we want the best. We want the cap to be effective.

20:55:55 Your big rigs, whatever compression factor, and I know how often they redo the blacktop and you are still putting tons on top of that site, which I can't care what anybody tells me, you put a big thing on top of a pancake, you are going to flatten

20:56:17 it eventually. 30 years down the road it won't be 15 feet, it will be less. It means you are spreading that contaminated toxic waste out or down. It's still an open cancer in the earth.

It's called accountability and all of my

20:56:40 nieces and nephews, we are going to live here and we

20:56:43 are all going to be here. You promised me that you were a man that will give the best of the best. I'm holding you to it.

The short term, I would rather a short

20:56:56 term danger than give me a long-term uncertainty. If you could give me long-term and with the risk of short term, try to keep that to go that way because it's important.

The other thing is when we do the

20:57:15 businesses and that I hope the City will take into effect and into account of how they have to deal with these people, give the highest price for the land because I worked with redevelopment in Seal Beach. Once they are there, they take control.

20:57:33 They will give you a gold wrapped Hershey's kiss, but they will eat three quarters of your Hershey's candy bar while they are doing it. So let's keep it up and honest while you are doing it, and I like all of you guys.

20:57:54 MR. HODGE: Thanks.

MR. FILIPPINI: Thanks.

In follow up to that, Ed, being that this is a federal Superfund site, any actions that are done on this property with respect to relocation

20:58:11 have to meet Federal Relocation Uniform Act

20:58:17 1 requirements. And our attorneys have done an
2 evaluation of the State of California's relocation
3 act and the federal relocation act and found them
4 comparable. And the basic component of the remedy
20:58:28 5 is that we have specified discussing the feasibility
6 study, that is, those have to be complied with as
7 redevelopment goes forward on this site.
8 AUDIENCE MEMBER (UNIDENTIFIED): Have this
9 put all in words, five years from now someone is
20:58:43 10 going to come along and say you didn't write that
11 down. It doesn't count. Everything has to be
12 written in record.
13 MR. FILIPPINI: We are coming up on nine
14 o'clock.
20:59:01 15 Did anybody else have burning issues?
16 Andy?
17 MR. LAZZARETTO: My name is Andy
18 Lazzaretto. I'm with the City of Santa Fe Springs.
19 I didn't want to take up any more of your time, but
20:59:15 20 I just want to bring up some of the points that were
21 discussed.
22 I wish we could tell you a little bit
23 more. I know you have a -- I'm frustrated because I
24 can't give you definitive answers, but I can tell
20:59:29 25 you what we have been doing. We have been working

20:59:33 with a lot of the people in this community.

We did get the grant for $100,000. We hired an architect, that architect for a landscape architect on his team and also a civil engineer so

20:59:49 with that group of experts, if you will, we have been working with them to try to figure out the feasibility of this site. We have determined that the site is developable, if I could use that word.

One of the first elements was to find out

21:00:06 if the site can be developed and we have pretty much convinced ourselves that that is possible. That we are not dealing with something that is not feasible from a physical standpoint, and one of the reasons that we like the alternative that is being

21:00:25 discussed, it actually lowers the profile of the site somewhat and what we have been discussing with a group of citizens that many of them are here tonight, that we have been talking about possible design alternatives for the site and we have come up

21:00:44 with, I think, really good examples of what could happen out there.

Now, what prevents us from giving you part of the economic feasibility is what we have to accomplish with our money, but part of our

21:01:02 responsibility is to try to determine if it's

21:01:04 1 economically feasible to develop that site. One of
2 the unknowns, Buffalo, the owner of that property,
3 relocate Buffalo Bullet or the other businesses that
4 are out there? We have an unknown because we don't
21:01:26 5 know how much it's going to cost. We have been
6 working with the Relocation, Inc. Group and I've
7 been told a number of times verbally that the group
8 is willing to finance the studies that will enable
9 us to make some more decisions.
21:01:43 10 We are going to be hiring an appraiser for
11 the properties and we are going to be hiring a
12 relocation specialist to go out and visit each one
13 of the sites and give us a good, working estimate of
14 what it would cost to acquire and relocate all the
21:02:00 15 property owners -- excuse me, acquire the property
16 and relocate the tenants.
17 Once we have that information, we will be
18 able to -- we still don't know at that point whether
19 we can make it happen, but it gets us closer. It's
21:02:19 20 a very complex issue. It boils down to how much
21 money is involved and whether or not we can actually
22 make it happen.
23 We are going to be going to the City
24 Council of Santa Fe Springs towards the end of July
21:02:35 25 and we are going to be discussing many of the things

21:02:38 that we went over this evening. We are also going to be giving an update of what the citizens committee has been discussing and ask the City Council's direction. We hope they will give us the
21:02:52 direction to go ahead and do the additional studies.

If they didn't wish us to proceed, we will just drop it. But we are trying to get to the alternative. This property is going to be there for 30 years. Most of those buildings that are out
21:03:12 there have probably reached their life span in terms of how long those buildings are ever going to remain in place. If there wasn't redevelopment, they have kind of reached the point where they kind of need to be replaced for a lot of reasons. I know many
21:03:33 people get attached to their property. So if we do something to that site to make it safe, as EPA is going to do, then we are also looking at making the site usable for the next 30 years in the most optimistic way.

21:03:54 So I just want to point that out. We are always happy to answer any questions the property owners or tenants have. I'm in city hall quite regularly. If you need my card, I have a number of them tonight. I'm happy to meet with you one-on-one
21:04:12 and answer any questions you have.

21:04:19 1 MR. HODGE: Anyone else who would like to
2 come up and ask a question or make a comment?
3 AUDIENCE MEMBER (UNIDENTIFIED): I'm also
4 a member of the Protect Our Neighborhood. I wonder
21:04:48 5 if you are going to get a Web site up so we can
6 access what's going on on a periodic basis?
7 MR. HODGE: I'm hesitating because I am
8 trying to remember the Web address. It's part of
9 the Region 9 Superfund Site and probably the best
21:05:16 10 way to do is just write down the address for those
11 of you who want it, but I can try to recite it.
12 It's www.epa.gov/region09/waste.
13 AUDIENCE MEMBER (UNIDENTIFIED): Repeat
14 that, please.
21:05:45 15 MR. HODGE: Sure.
16 It's www.epa.gov/region09/waste. That
17 will get you close to -- get you to the WDI site, it
18 would.
19 MR. FILIPPINI: It's pretty obvious. Go
21:06:12 20 through Superfund sites. It's way down at the
21 bottom.
22 MR. HODGE: If you have trouble finding it
23 from there, please give me a call and I will step
24 you through the site or I will e-mail you the exact
21:06:26 25 address, because I don't have it on the top of my

21:06:29 head right now. I should have put that on a slide.

Other questions? I know it's a little after the time we said we were going to close the meeting but I don't want to preclude anyone.

21:06:54 If not, I think you should give yourselves a round of applause. I want to express my appreciation to the project navigator for putting together the presentation and managing all the equipment here. I appreciate that.

21:07:23 And to Lor Rae Nelson, who will produce the transcript.

And to all of you for coming out. Thank you very much for your -- for reading the proposed plan, for catching my mistakes and I hope to see you

21:07:39 at the many future meetings.

Thanks again.

(The Hearing was concluded at 9:07 p.m.)

REPORTER'S CERTIFICATION

I, LorRae D. Nelson, a Certified Shorthand Reporter in the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that the proceedings were reported stenographically by me and later transcribed into typewriting under my direction; that the foregoing is a true record of the proceedings taken at the time.

IN WITNESS WHEREOF, I have subscribed my name this 15th day of August, 2001.

LorRae D. Nelson, CSR No. 7384

WASTE DISPOSAL, INC.

AMENDED RECORD OF DECISION

Appendix 2

Waste Disposal, Inc. Superfund Site
Santa Fe Springs, California 90670

United States Environmental Protection Agency
Region 9 - San Francisco, California

ST. PAUL HIGH SCHOOL

9635 Greenleaf Avenue • Santa Fe Springs • California 90670
(562) 698-6246 • Fax (562) 696-8396

June 22, 2001

United States Environmental Protection Agency
Region IX Superfund - Waste Disposal, Inc. Site
75 Hawthorne Street
San Francisco, CA 94105-3901

Attention: Don Hodge and Mark Filippini

Dear Sirs:

St. Paul High School is located directly north and adjacent to the Waste Disposal, Inc. (WDI) Superfund Site, close to the main disposal reservoir area. We are requesting inclusion in the Record of Decision of two items. The first is remuneration based on both St. Paul High School's loss of revenue and the additional costs of operation incurred beginning in July, 1987, when the site was placed on the EPA's Superfund National Priorities List.

St. Paul requests that the Record of Decision include a statement assuring the school that there will be a barrier which eliminates the possibility of a 'direct line of sight' over the school, fields, and parking lot. This request has to do with our serious commitment to and genuine concern for the safety of our St. Paul High School students. The need to protect the entire student body from outsiders is unfortunately a reality in today's society. Even if the present clean soil covering the main disposal reservoir is lowered five to ten feet before a new protective cover is added, the WDI site is considerably higher than our school site. At present, there is no regular use of any part of the Superfund Site adjacent to St. Paul by the public. However, once the cleanup and new cap are complete, there will be public use of the site.

The request for remuneration is based on loss of revenue caused by a decline in student enrollment and negative publicity. This has been due to the strong parental concern with the site's perceived toxicity and the imminent danger it may pose for students. Many students and coaches using our sports practice fields have seen protective covered, suited individuals working on the superfund site. At the same time, they are wearing shorts, t-shirts and tennis shoes and wondering if they should also be protected.

The school has also experienced a variety of operational expenses which are directly related to the WDIG superfund site. All water used on campus must be of drinking quality. We have been unable to even consider using reclaimed water, even for field maintenance because of polluted water concerns. For many years, we called upon and paid for services from the California Department of Agriculture, who assisted with the extermination of gophers and other vermin. We have experienced damage to our practice fields and baseball diamond/field. There has been a continuing battle against the plant and weed spore/seeds that were either airborne or spread through WDI rain water runoff and all of our fields have been infected. For several years, we have aggressively fought against the spread of an ornamental clump grass. Last year alone, we show a significant increase in ankle, knee, and leg injuries which we feel is a direct result of this weed's spread.

St. Paul High School continues to actively participate in the EPA's public process and has been in regular contact with the EPA's Remedial Project Managers and the Community Involvement Coordinators, as well as other public agencies. The school has always endeavored to be a good neighbor. For 14 years, the WDIG site has been on the EPA's Superfund Site National Priorities List and St. Paul High School, under the direction of three principals, has continued to focus on challenging our students to strive for academic, artistic and athletic excellence and worked toward building a more just society. However, our efforts are not without cost. The loss of revenue and the additional operational costs have negatively impacted our school in the areas of long-term plant maintenance, upgrading of facilities, and providing the needed tuition assistance to families with financial need. Reasonable remuneration will benefit these areas immediately.

We ask that both remuneration to St. Paul High School and a statement eliminating any "direct line of sight' over the school, fields, and parking lot become part of the Environmental Protection Agency's "Record of Decision." The school and the Department of Catholic Schools, Archdiocese of Los Angeles will be active in all phases of the public process and we look to the future when the WDI site is able to be put back into public use. If there are any questions or a need for additional information, please contact me or Lois McMillan Maldonado at (562) 698-6246.

Sincerely,

Frank A. Laurenzello
Principal

cc: Mrs. Nancy Coonis
Superintendent, Department of Catholic Schools - Archdiocese of Los Angeles

Ms. Dorothy Pittelkau
San Pedro Regional Supervisor , Department of Catholic Schools - Archdiocese of Los Angeles

Mr. Roberto Pugo
Waste Disposal Inc. Group Coordinator, Project Navigator

Mr. Michael Skinner
Waste Disposal Inc. Group Chair

JOHNSON & TEKOSKY LLP
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444 SOUTH FLOWER STREET
THIRTY-FIRST FLOOR
LOS ANGELES, CALIFORNIA 90071

July 2, 2001

United States Environmental Protection
Agency - Region 9 – Superfund Division
Mr. Mark Filippini
Remedial Project Manager
75 Hawthorne Street (SFD-7-1)
San Francisco, CA 94105-3901

Re: Comments re Waste Disposal, Inc. Superfund Site

Dear Mark:

I am writing to provide comments on the proposed remedy on behalf of the owners of the properties identified as parcels 3 and 24, respectively.

First, the EPA's favored alternative, alternative number two, provides for a monofill cap to cover "areas underlain by waste materials in Areas 1, 2, 4, 5, 6, 7 and 8." This decision appears to be premised solely on whether "waste materials" are detected underneath a parcel rather than the nature and degree of constituents of concern under a given parcel. As for parcel 3, the site investigations performed to date indicate that "[b]ased on the results from soil borings drilled on this parcel and adjacent parcels, it appears that the buried waste that underlies much of the central portion of the WDI site does not extend beneath Parcel 003."[1] Accordingly, we conclude that no cap of any kind whatsoever is contemplated for Parcel 3. With respect to parcel 24, the property owners submit that environmental testing conducted to date suggests that constituents of concern have not been detected conclusively in amounts significant enough to determine that waste materials underlie the parcel – let alone to warrant capping -- or to undertake any other remedial measures.[2]

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[1] Status of Environmental Investigations 1988-1999 for Parcel APN 8167-002-003 (U. S. EPA December 2000) at 13.

[2] For example, in the Status of Environmental Investigations 1988-1999 for Parcel APN 8167-002-024, soil borings TS-108, TS-109, TS-110, TS-111, TS-122 and SB-65 were used to estimate the approximate extent of the buried wastes. *Id.* at 11. Yet, borings TS-108 through TS-111 were clean. *Id.* at Attachment 2. In TS-122, drilling mud is

With respect to any decisions to require engineering controls or to remove any buildings, the feasibility study indicates that such decisions will be made during the design phase. Accordingly, we reserve the right to comment on the need for, or the extent of, such controls at such time or times as those decisions are made.

Please direct questions or comments on this submittal to the undersigned.

Very truly yours,

Steven R. Tekosky

---

not identified. Instead, greenish clay with no staining or odor was observed as "possibly drilling mud." *Id.* at attachment 2. As for SB-65, there is continuous sampling every five feet to a depth of 45 feet. At a depth of 15 and 35 feet, respectively, the observer noted "slight contamination visible." *Id.* at Attachment 2. At all other depths it was reported that no contamination was visible. *Id.* at Attachment 2. If anything, these observations seem to be at odds with the weight of the soil borings for the parcel.

SpiderMBA@pacbell.net on 06/16/2001 07:03:07 AM

To: Don Hodge/R9/USEPA/US@EPA, Mark Filippini/R9/USEPA/US@EPA
cc: WDN <letters.wdn@sgvn.com>
Subject: WDI Site

Dear EPA and NIMBYs of Santa Fe Springs/Whittier:

The 43 acre Superfund Site bounded by Santa Fe Springs Road, Greenleaf Avenue, and Los Nietos Road, should be put to productive use after the remediation of all contamination is completed. Land is just too valuable to waste.

Since the organic wastes will be capped and will present no further danger to anybody, this land should be completely developed. It should be sold by its rightful owner to a developer for either a distribution center, consisting of warehouses, a small building business park, or a low income apartment community. Since cities allow NIMBYs (Not In My Back Yard) to make the decisions in most communities, let them choose from among these options.

Allowing 43 acres of developable land to lie fallow is the height of folly.
I would gladly work or live there, knowing the risks involved, for I have a degree in chemistry. There are no toxic compounds, only toxic levels. Let's be prudent, not neurotic. Every time you get into your car, you are sitting atop a gas tank and an engine full of "toxic compounds" - volatile and flammable gasoline and dirty engine oil. It hasn't hurt you yet.

John Jaeger
9500 Norwalk Boulevard
Santa Fe Springs, CA

ST. PAUL HIGH SCHOOL

9635 Greenleaf Avenue • Santa Fe Springs • California 90670
(562) 698-6246 • Fax (562) 696-8396

December 20, 2001

Mr. Russell Meechem
Project Director
United States Environmental Protection Agency
Region IX Superfund - Waste Disposal, Inc. Site
75 Hawthorne Street
San Francisco, CA 94105-3901

Dear Mr. Meechem:

We were pleased to meet you last week, December 13, 2001 at St. Paul High School. As you are aware, our school is located directly north and adjacent to the Waste Disposal, Inc. Group (WDIG) Superfund Site, close to the main disposal reservoir area (dial). St. Paul High School formally requests inclusion in the Record of Decision construction of a barrier which eliminates the possibility of a 'direct line of sight' over the school, fields, and parking lot.

This request has to do with our serious commitment to and genuine concern for the safety of our St. Paul High School students. The need to protect the entire student body from outsiders is unfortunately a reality in today's society. Even if the present clean soil covering the main disposal reservoir is lowered five to ten feet before a new protective cover is added, the WDIG site is considerably higher than our school site. At present, there is no regular use of any part of the Superfund Site adjacent to St. Paul by the public. However, once the cleanup and new cap are complete, there will be continuous use of the site during clean-up and redevelopment.

St. Paul High School continues to actively participate in the EPA's public process and has been in regular contact with each of the EPA's Remedial Project Managers and the Community Involvement Coordinators, as well as other public agencies. The school has always endeavored to be a good neighbor. For 15 years, the WDIG site has been on the EPA's Superfund Site National Priorities List and St. Paul High School, under the direction of three principals, has continued to focus on our mission statement of challenging our students to strive for academic, artistic and athletic excellence and worked toward building a more just society.

The school and the Department of Catholic Schools, Archdiocese of Los Angeles will be active in all phases of the public process and we look to the future when the WDIG site is able to be put back into full public use. If there are any questions or a need for additional information, please contact me or Lois McMillan Maldonado at (562) 698-6246.

Sincerely,

Frank A. Laurenzello
Principal